metos

MIXER

AR 30 MK 1

Installation and Operation Manual

S/N: 35728 Rev.: 2.0

Dear Customer,

Congratulations on deciding to choose a Metos appliance for your kitchen activities. You made an excellent choice. We will do our best to make you a satisfied Metos customer like thousands of customers we have around the world.

Please read this manual carefully. You will learn correct, safe and efficient working methods in order to get the best possible benefit from the appliance. The instructions and hints in this manual will give you a quick and easy start, and you will soon note how nice it is to use the Metos equipment.

You will find the main technical data on the rating plate fixed to the equipment. When you need service or technical help, please let us know the serial number shown on the rating plate. This will make it easier to provide you with correct service.

For your convenience, space is provided below for you to record your local Metos service contact information.

METOS TEAM

Metos service phone number:.....

Contact person:.....

1. General

Carefully read the instructions in this manual as they contain important information regarding proper, efficient and safe installation, use and maintenance of the appliance.

Keep this manual in a safe place for eventual use by other operators of the appliance.

The installation of this appliance must be carried out in accordance with the manufacturer's instructions and following local regulations. The connection of the appliance to the electric supply must be carried out by qualified persons only.

Persons using this appliance should be specifically trained in its operation.

Switch off the appliance in case of failure or malfunction. The periodical function checks requested in the manual must be carried out according to the instructions. Have the appliance serviced by a technically qualified person authorized by the manufacturer and using original spare parts.

Not complying with the above may put the safety of the appliance in danger.

The manufacturer does not take responsibility for any damages in case the operation instructions and warnings contained in this manual are neglected.

1.1 Symbols used in the manual

This symbol informs about a situation where a safety risk might be at hand. Given instructions are mandatory in order to prevent injury.

This symbol informs about the right way to perform in order to prevent bad results, appliance damage or hazardous situations.

This symbol informs about recommendations and hints that help to get the best performance out of the appliance.

1.2 Symbols used on the appliance

This symbol on a part informs about electrical terminals behind the part. The removal of the part must be carried out by qualified persons only.

1.3 Checking the relationship of the appliance and the manual

The rating plate of the appliance indicates the serial number of the appliance. If the manuals are missing, it is possible to order new ones from the manufacturer or the local rep-

resentative. When ordering new manuals it is essential to quote the serial number shown on the rating plate.

2. Safety

Putting your fingers in the bowl while the mixer is running may cause injuries.

2.1 Safety instructions in case of malfunction

Please take careful note of the following instructions and warnings:

2.2 Disposal of the appliance

Once the appliance has reached the end of its useful life, it must be disposed of in compliance with local rules and regulations. The appliance may contain substances/materials which potentially have an adverse impact on the environment as well as recyclable materials. The best way of dealing with such substances is to dispose of them through a proper waste company.

3. Functional description

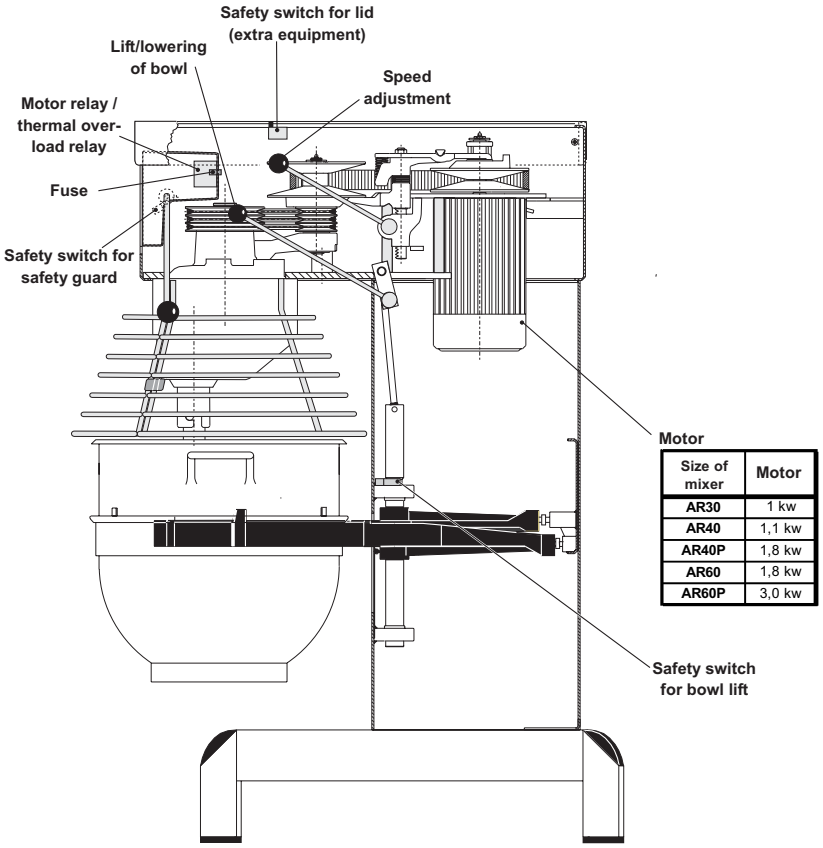
3.1 General

This appliance does not contain parts which can be serviced by the user. Maintenance must be carried out by authorised personnel.

3.2 Intended use of the appliance

The appliance is intended for manufacture of products which do not during processing cause reactions or emit substances which may be detrimental to the user

3.3 Construction of the mixer



Size of mixer	Motor
AR30	1 kw
AR40	1,1 kw
AR40P	1,8 kw
AR60	1,8 kw
AR60P	3,0 kw

4. Operation instructions

4.1 Operation of the mixer

A Open the safety guard and place the bowl in the bowl arms. The bowl arms must be in the lowest position and the bowl must be pushed all the way into the bowl arms (fig.2 or fig.3).

B Place the mixing tool in the bayonet shaft. The pin on the tool must be turned into the bayonet hole (fig.2).

C Raise the bowl to working position by turning the handle for bowl lift in the direction of the arrow (fig.2).

Fig. 2

Mixer with open safety guard, lowered bowl and mounted tool.

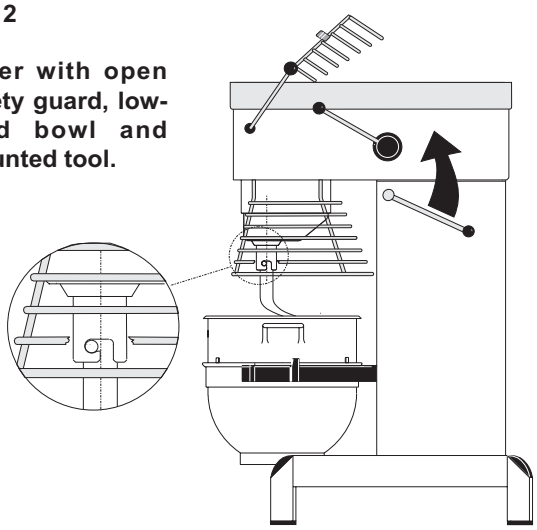
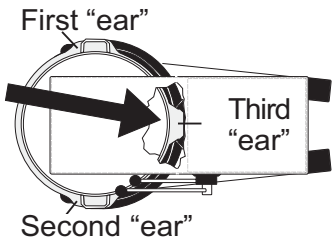


Fig. 3

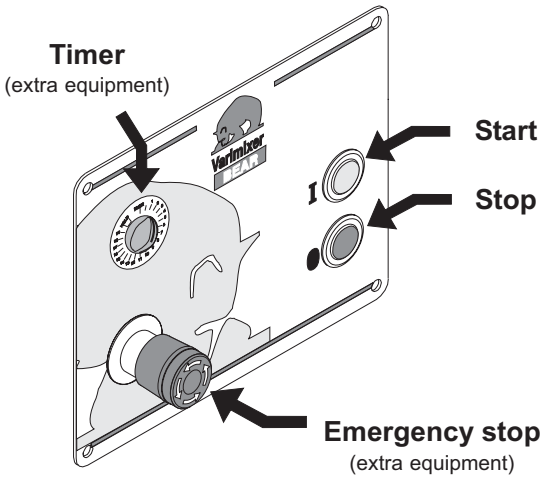
Mixer seen from above, the bowl has been pushed all the way into the bowl arms. **Notice: the third "ear" of the bowl is facing the mixer**



D If the mixer is equipped with a timer, set the mixing time requred by turning the timer (fig.1) clockwise. The mixer will stop automatically when the time runs out. When the mixer has been stopped due to an end of timer, the ”procedure for starting after emergency stop” is used before the mixer is restarted. Set the timer on HOLD when not used, as otherwise the mixer can not be started.

The mixer must only be started when the bowl is in working position and the safety guard is closed.

Fig.1



F Turn the speed selector lever (fig.4) to the rear until the required speed has been obtained.

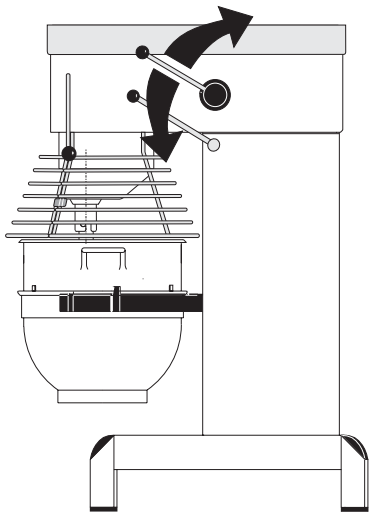
The speed must be changed only when the mixer is running.

The mixer must not be started when loaded in high speed position.

G Before the mixer is stopped, the speed selector lever must be moved back to the lowest speed (fig.4).

Fig. 4

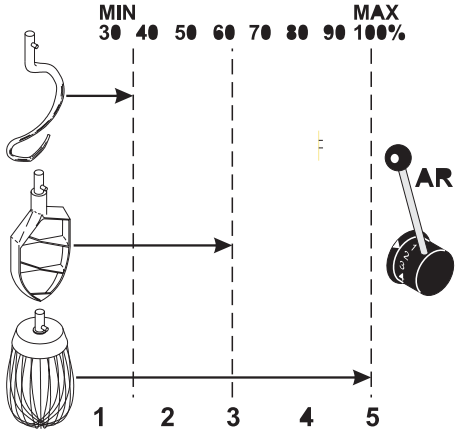
Mixer with closed safety guard, raised bowl and mounted tool.



H Stop the mixer by pressing the red stop button 0.

4.1.1 Recommended maximum speeds

Please take note of the recommended maximum speeds below:



4.1.2 Procedure for starting after emergency stop

This procedure must be used in cases where the mixer has been stopped in high speed.

- Lower the bowl and remove the tool from the bayonet.
- Raise the bowl arms,either empty or with the bowl.
- Close the safety guard, start the mixer and move the speed selector lever back to the lowest speed.
- Switch off the mixer. Now the mixer can be started as usual.

4.1.3 Overload

Do not overload the mixer. Sticky and heavy doughs may reduce the capacity of the bowl by 75%. The capacity is further reduced if the speed of the mixing tool is increased beyond the recommended values or if a wrong mixing tool is used. Large lamps of fat or cooled ingredients must be cut into small parts before they are placed in the bowl.

Prolong overload will make the mixer's motor protection disconnect the mixer. Leave the mixer for approx. 3 minutes and restart it again as described under "Procedure for starting after emergency stop".

4.1.4 Maximum capacity of the mixer

		Size of mixer (litres)				
		AR30	AR40	AR40P	AR60	AR60P
Dough with a given AR (%AR)	AR = 60%	17 kg	25 kg	27 kg	37 kg	41 kg
	AR = 50%	10 kg	15 kg	20 kg	30 kg	36 kg
	AR = 40%	7 kg	9 kg	14 kg	23 kg	27 kg

		Size of mixer (litres)				
		AR30	AR40	AR40P	AR60	AR60P
Other products	Egg white 1L = 30 eggs	4 L	6 L	6 L	9 L	9L
	Whipped cream	6L	9 L	9 L	12 L	12 L
	Mayonnaise (L oil)	11 L	12 L	14 L	19 L	20 L
	Mashed potatoes	18 kg	24 kg	28 kg	36 kg	36 kg
	Biscuit bottom	12-15	16 - 20	20 - 25	25 - 30	30 - 35
	Dough (L liquid)	4 L	6 L	8 L	9 L	12-15 L
	Sponge cake	18 kg	24 kg	30 kg	36 kg	48 kg

AR = Absorption Ratio (%AR)
(Liquid in % of solids)

Example: A basic recipe contains 1 kg of solids and 0,4 kg of liquid:

$$\text{This gives AR} = \frac{0{,}4\ kgs \times 100}{1\ kgs} = 40\%$$

If for instance it is required to use the maximum capacity of the mixer, the calculated AR = 40% is used for determining the amount of solids and liquid in the dough:

If a 30 L mixer is used, and a dough with AR = 40% is to be kneaded, the maximum capacity is = 7 kgs. Now the weight of solids in this dough is calculated:

$$\text{Solids} = \frac{Max.\ capacity \times 100}{AR + 100} = \frac{7\ kgs \times 100}{40 + 100} = 5kgs$$

$$\text{Weight of liquid} = 7\ kgs - 5\ kgs = 2kgs$$

4.1.5 Correct use of tools

The meat mincer must not be used for production of bread crumbs as this will cause unnecessary wear and tear on some mixer parts.

Whips should not be struck against hard objects as e.g. the edge of the bowl. This will make the life of the tool shorter due to increasing deformity.

4.1.6 Recommended applications for tools

Whip

- cream
- egg whites
- mayonnaise
- and the like

Beater

- cake dough
- butter cream
- waffle dough
- minced meat
- and the like

Hook

- bread dough
- dark bread
- and the like

For production of mashed potatoes the special wing whip should be used, not the standard whip.

4.2 After use

4.2.1 Cleaning

The mixer should be cleaned daily or after use. The mixer should be cleaned with a soft cloth and clean water. Sulphonated soaps should be used with caution as they destroy the mixer's lubricants.

Never use high pressure cleaning for the mixer.

Bowls and tools of aluminium must not be washed with strong alkaline detergents (pH not bigger than 9.0).

Please note that the plastic safety guard can be damaged if exposed to high temperature for a considerable period (Max. temperature 65°C).

After using the attachment drive, it should be wiped inside with a soft cloth.

4.2.2 Maintenance and lubrication

The infinitely variable gear must be lubricated regularly, i.e. a lubrication interval of approx. 60 hours of operation.

Lubrication of infinitely variable gear:

Use the grease gun delivered with the mixer.

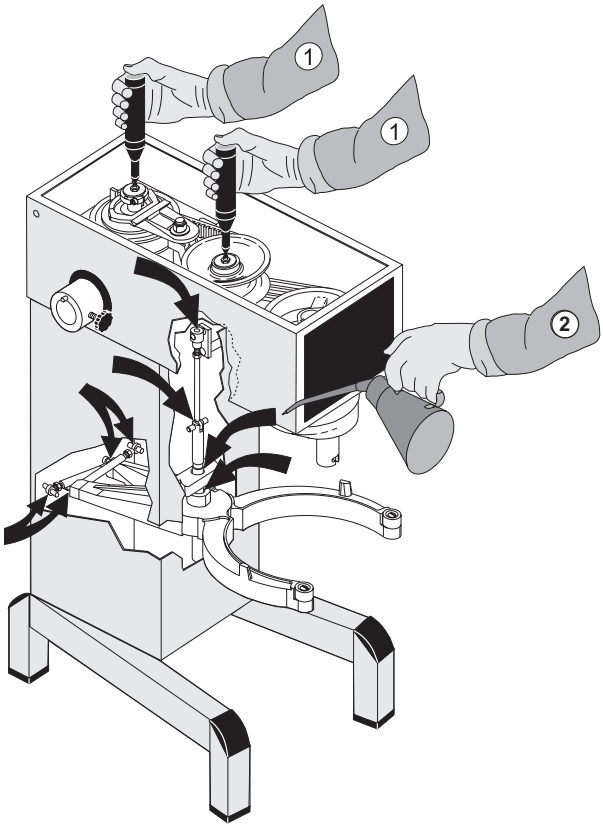
Start the mixer and increase the speed to approx. 50%. Stop the mixer and open the lid on the top of the mixer. On the top of each of the two pulley set shafts is a grease nipple (fig.5 point 1). Press grease through the grease nipples until the grease gun feels hard to press or until grease comes out between the shaft and the pulleys.

The mixer must not be started until the screws which hold the lid are inserted.

Start the mixer and set the speed back to low speed.

Stop the mixer and fill the grease gun with new grease so that it is ready for next time.

fig.5



Lubrication of other movable parts:

The movable parts of the bowl arms, the shaft and the lifting rod must also be lubricated with oil. Remove the rear covering and lubricate the marked points with an oil can (fig.5 point 2).

Grease types:

Grease for the pulley set shafts: Castrol LMX

On repair of the planetary head: Grease the toothed wheel and the toothed rim with Castrol Molub Alloy 936SF Heavy or Castrol Grippa 355, the needle bearings in the planetary head must not be lubricated with this type of grease. Do not use any other type of grease than the one stated here.

5. Installation

5.1 Preparing the installation

It should be checked that all loose parts are delivered with the mixer such as bowl, tools, grease gun and rubber feet.

5.2 Installation

Never lift the mixer by the handle for speed adjustments or for bowl lift.

The mixer is placed directly on the floor. Foundation bolts in the floor are only necessary under special conditions, e.g. on ships.

The mixer must be mounted with rubber feet, which neutralize both shaking and rusting. Spacers can be inserted under the mixer's feet, if the floor is not completely even.

5.3 Electrical connections

The electrical connections can only be carried out by a qualified electrician having the necessary competence for the installation and service of electrical appliances.

The mixer is to be connected to power via a plug. The plug must be dimensioned for min. 16A, 230/400V~, IP44.

When connecting:

- 1 phase with N+earth, use 3 pole plug
- 2 phases+earth, use 3 pole plug
- 3 phases+earth, use 4 pole plug
- 3 phases with N+earth, use 5 pole plug

Before the mixer is connected to power, it should be checked that the voltage and frequency printed on the machine label is correct in relation to the place of installation. The machine label is placed at the top right side of the mixer.

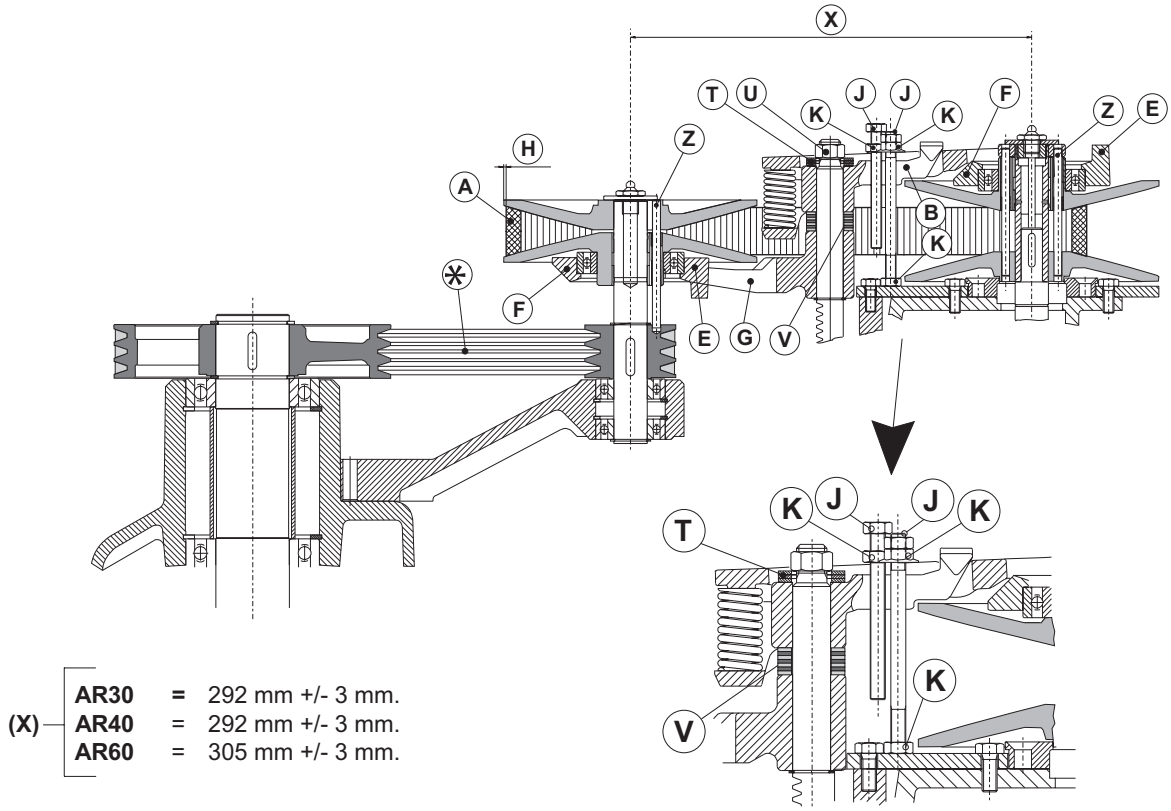
5.4 Checking of the direction of rotation of the planetary head

Lift up the bowl arms to normal working position and start the mixer without bowl and tools. Check the direction of rotation of the planetary head: the planetary head must rotate in the direction as stated by the arrow above the planetary head. If the direction of rotation is wrong, 2 of the phase wires of the connecting cable must be inverted.

6. Adjustment instructions

Prior to a possible repair or adjustment, switch off the mixer by disconnecting the power cable.

6.1 Adjustment of special V-belt



(X)
AR30 = 292 mm +/- 3 mm.
AR40 = 292 mm +/- 3 mm.
AR60 = 305 mm +/- 3 mm.

The distance (X) is only indicative as it depends on the tolerance of the special V-belt.

Start by tightening the V-belts (*)

Tighten the special V-belt (A) by moving one or two washers from (V) to (T).

Start the mixer and leave it running while the nut (U) is tightened. Do not tighten it too much

On the front pulley set the stud (E) on the varispeed collar (F) must be placed inside the lower fork (G) and on the rear pulley set outside the fork for belt tightener (B), (both must point backwards).

Tolerances in the transmission might cause that the special V-belt (A) is hitting the pins of the pulley sets when the speed has been adjusted. In such cases the distance (X) must be reduced.

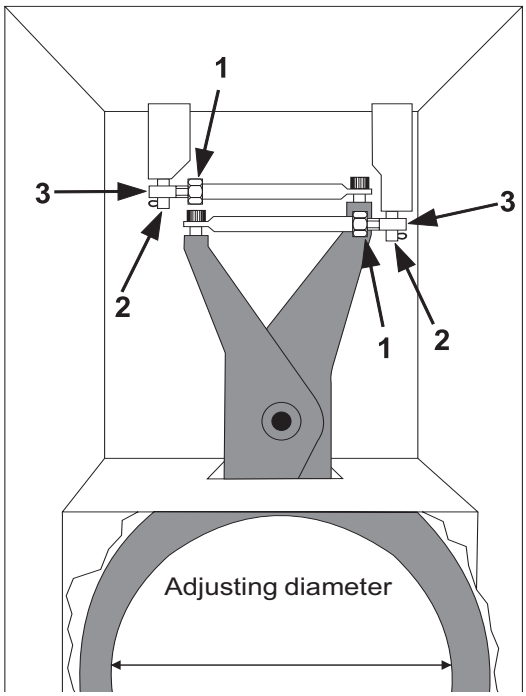
Then follow the section ”Adjusment of speed”.

6.2 Adjustment of speed

The stop screws (J) on the speed lever should be adjusted so that the measurement (H) is 1-2 mm on the front and rear pulley, at low and high speed respectively. Tighten the counter nuts (K) when the speed is correctly adjusted.

6.3 Adjustment of bowl fixing

fig.6



The bowl arms must be raised to normal working position. Loosen the counter nuts (1) and remove the cotterpins (2). Turn the bolts (3) until correct fixing of the bowl is achieved. By turning the bolts out of the extension tube the fixing is increased. Start by turning one of the bolts half a revolution.

The adjusting diameter shall be measured inside between the bowl arms:

Adjusting diameter:

- AR30 = 361,8mm
- AR40 = 391,3mm
- AR60 = 450,4mm

6.3.1 Adjustment of bowl centering

Loosen the counter nuts (1) and remove the cotterpins (2). Turn the bolts (3) until the bowl is in the centre of the mixer. In order not to alter the fixing of the bowl, one of the bolts must be turned out of the extension tube and the other into the extension tube. Use the flat beater to check that the bowl is correctly centered and turn the planetary head with your hand before the voltage is connected.

6.3.2 Adjustment of bowl height

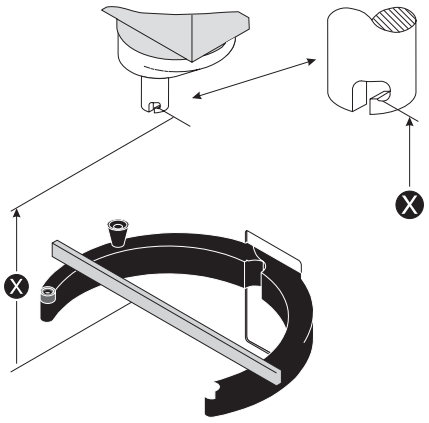
The distance (X) is measured from the bottom side of the bayonet hole to the surface on the bowl arms on which the bowl rests (fig.7a). The bowl arms must be lifted to normal working position.

AR30 = 162mm

X: AR40 = 162mm

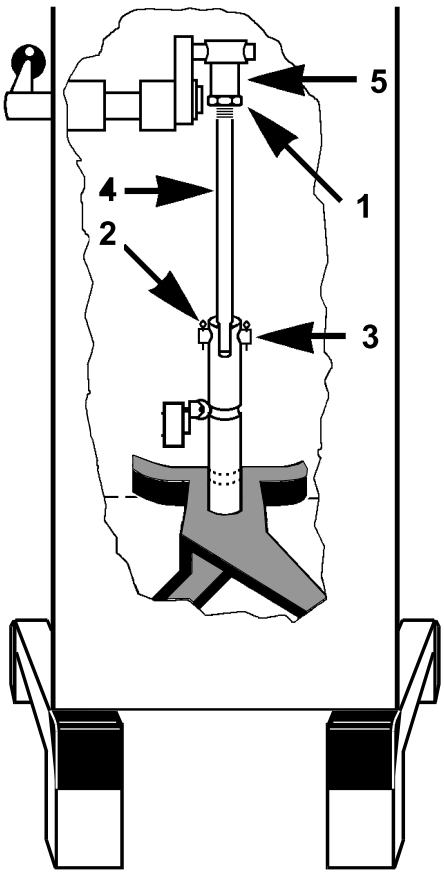
AR60 = 178mm

fig.7a



Lower the bowl arms down on a wooden block so that the weight of the bowl arms are not loading the lifting system. Loosen the counter nut (1), (fig.7b). Take out the cutter pin (2). Take out the lifting rod (3). The lifting bolt (4) is now loose and can be turned out or into the lifting nut (5), until the correct height of the bowl arms has been reached.

fig.7b



7. Troubleshooting

If the appliance fails to work, check to ensure that

- it has been used according to instructions
- all removable parts are in place
- the disconnection switch (usually on a wall or in the immediate vicinity of the appliance) is in the ON position
- the fuses (overload protections) have not blown on the fuse board. Ask a qualified person to check the overload protections.

PROBLEM	MEASURES
A rattling sound from the closed part of the mixer	Adjustment of special V-belt
The mixer starts striking when kneading dough which normally causes no problems	Adjustment of special V-belt
The mixer changes its speed by itself	Adjustment of special V-belt
The minimum and the maximum speeds are changing	Adjustment of speed
The bowl is too tight or too loose	Adjustment of bowl fixing
The tool hits the sides of the bowl	Adjustment of bowl centering
The tool hits the bottom of the bowl	Adjustment of bowl height

When you contact service personnel, give the following information about the unit in question:

- the type and model of the unit
- the serial number of the unit and the date the unit has been installed
- a short description of the fault, what function is not working, what signals the displays are showing
- what happened/was done immediately before the fault occurred

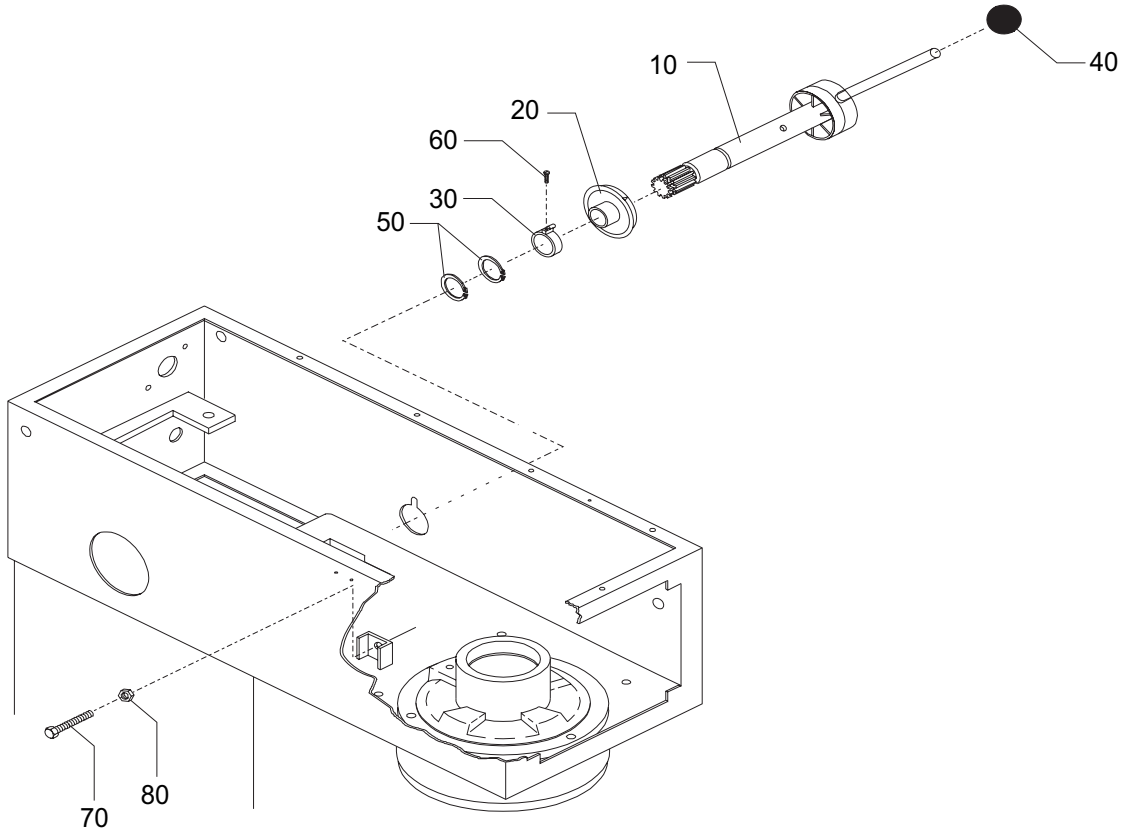
8. Spare parts

8.1 Voltage codes

Voltage	Voltage code
A	3/N/PE~400/230V 50Hz
B	~250V 16A 50Hz
C	3/N/PE~380/220V 50Hz
D	3/PE~200V 50-60Hz
F	2/PE 220–240V 50Hz
G	3/N/PE~415/240V 50Hz
H	3/PE~230V 50Hz
I	3/PE~220V 60Hz
J	3/PE~380 50Hz
K	3/PE~400V 50Hz
L	3/PE~415V 50Hz
M	3/PE~440V 60Hz
N	3/PE~460V 60Hz
O	3/PE~480V 60Hz
P	1/N/PE~220-240V 50Hz
R	2/PE~220-230V 60Hz
S	3/N/PE~400/230V 50Hz
T	3/PE~230V 60Hz
U	1/N/PE~100V 50-60Hz

8.2 Product codes

Product code	Full name
Model codes	
30	Mixer AR 30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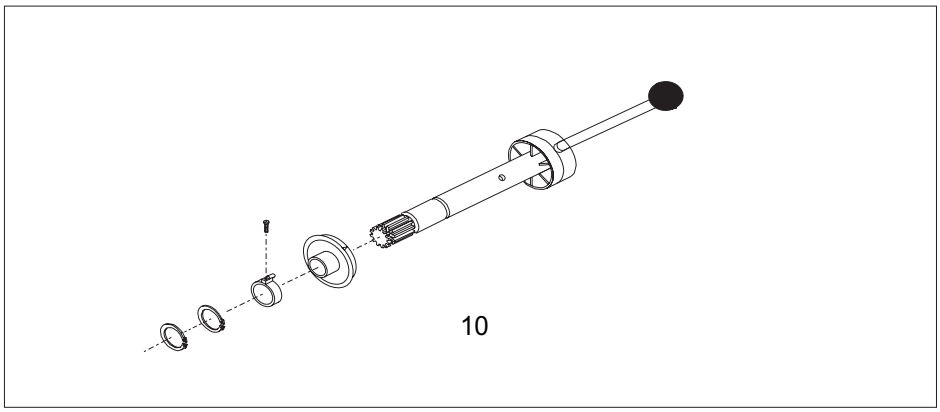
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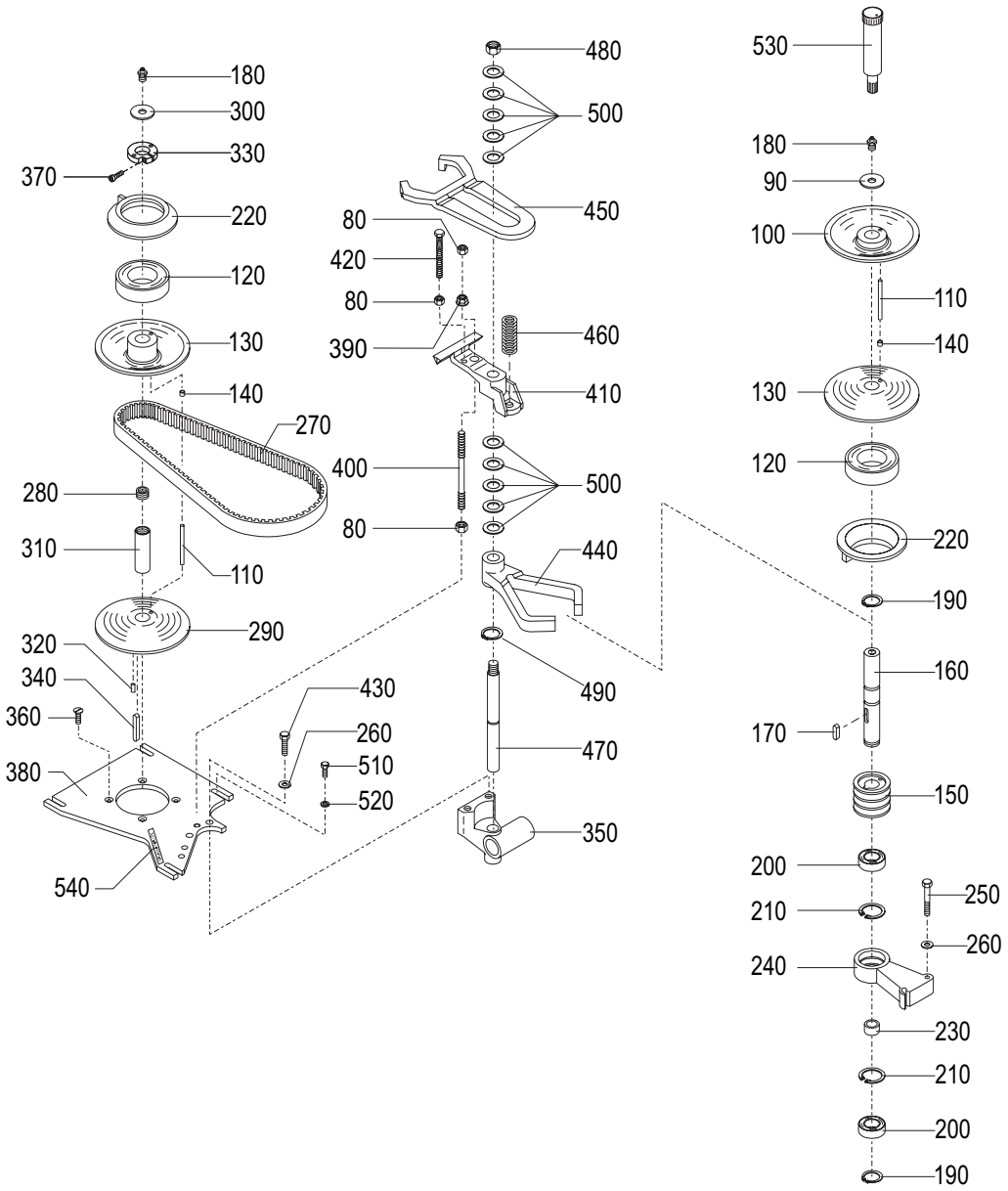
ID	Code	Model	Description
Module:Speed regulation			
10	AR31-47Z		Speed selector lever,assy
20	AR30-47.10		Disc with arrow
30	AR30-47.11		Clamp
40	STA3306		Knob Ø 40, black
50	STA3414		Circlip 30U
60	STA5247		Screw 8x13
70	STA5439		Screw M8x60
80	STA5810		Nut M8

30=AR 30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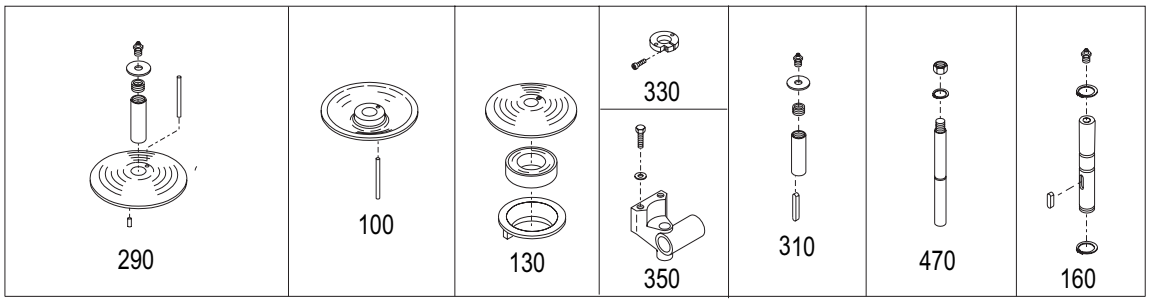
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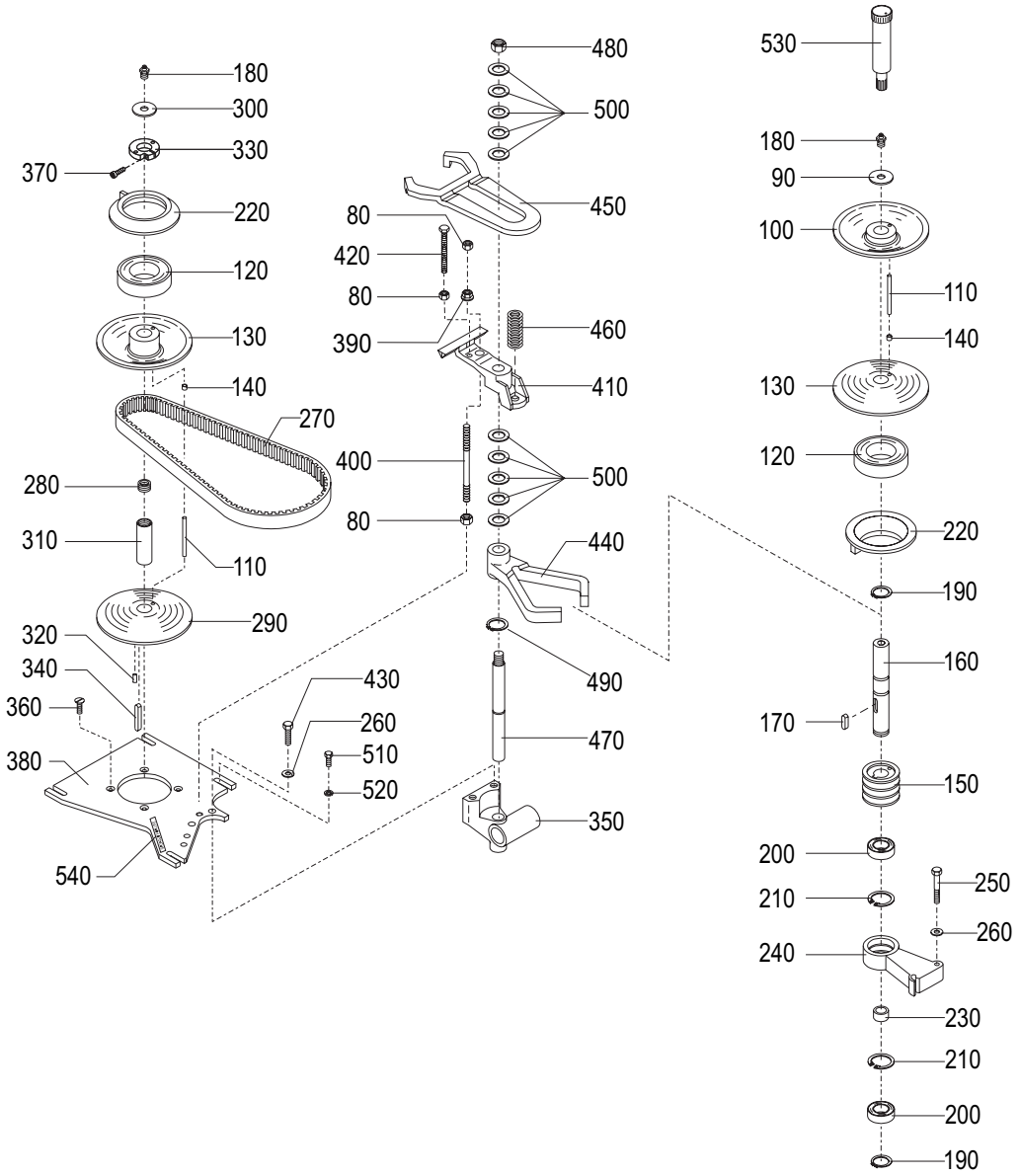
ID	Code	Model	Description
Module:Transmission			
90	STA6018		Washer 40x13x3
100	R15-13.1		Pulley assy
110	R30-285		Pin
120	R15-103		Ball bearing f/15 6010 2RS1
130	R15-15Z		Pulley movable, assy
140	STA2505		Bearing bush MB0610DU
150	R27-128		Standard v-belt pulley
160	R15-41Z		Bearing shaft
170	STA2024		Tight fitting key A 6x6x28
180	STA3220		Grease nipple
190	STA3410		Circlip 25U
200	6205 2RS		Ball bearing 6205 2RS.1-C3
210	STA3514		Circlip 52l
220	R15-17.1		Varispeed collar
230	R15-143		Distance tube
240	R30-60		Arm for bearing
250	STA5348		Screw M10x55
260	STA6010		Washer 10.5x20x2.0
270	R27-91		Special v-belt
280	R15-156		Thread nipple
290	R15-13.1Z		Pulley assy
300	STA6018		Washer 37x13x3
310	R15-59Z		Motor pulley shaft assy
320	STA5602		Screw M5x10
220	R15-17.1		Varispeed collar
330	R27-227Z		Clamping ring compl.
340	STA2011		Key A5x5x57
350	R15-18Z		Bearing bracket assy

30=AR 30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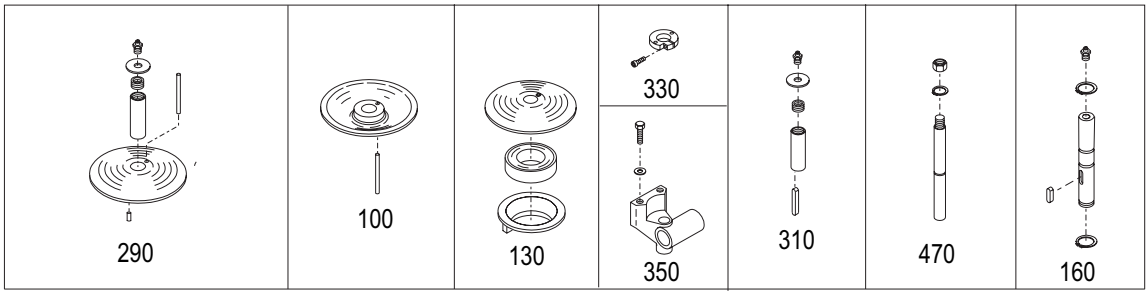
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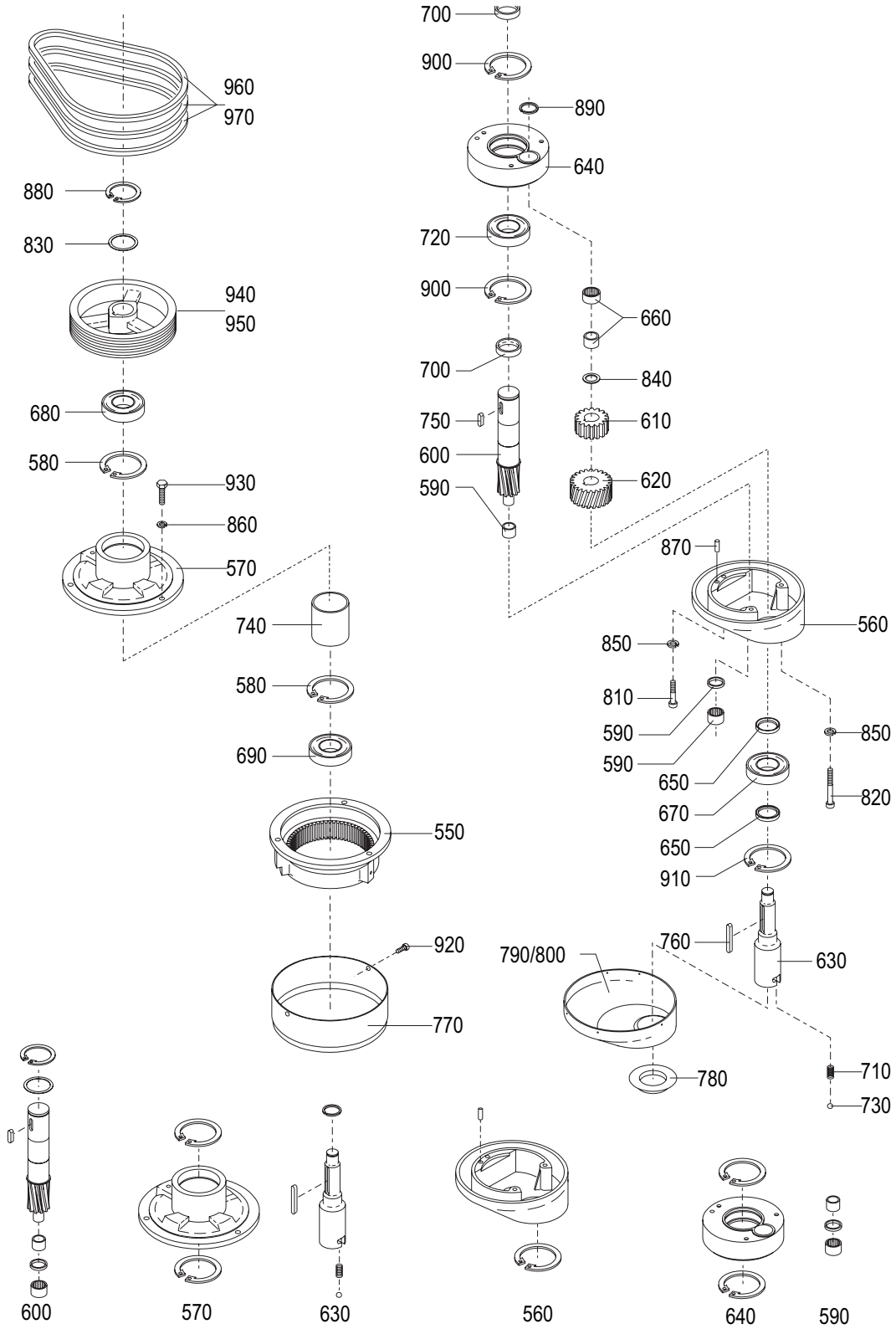
ID	Code	Model	Description
Module:Transmission			
360	STA5014		Slotted screw M8x16 DIN963
370	STA5612		Screw M5x20
380	R60-61.1		Base for motor
80	STA5810		Nut M8
390	STA5895		Flanged nut M8 DIN6923 FZB
400	AR31-305		Pin bolt
410	R20-26.1		Support bracket for belt tightener
420	STA5444		Screw M8x80 DIN933 8.8 FBZ
430	STA5345		Screw M10x30
440	R27-16		Lower fork
450	R20-19		Fork for the belt tightener
460	R20-275		Spring f/tightening the v-belt
470	R15-46Z		Toothed rack assy
480	STA5815		Nut M16
490	STA3407		Circlip 19U
500	STA6040		Washer
510	STA5433		Screw M8x25
520	STA6026		Washer 20x10x2,5
530	R15-142		Grease gun
540	R20-249		Label "greased for life"

30=AR 30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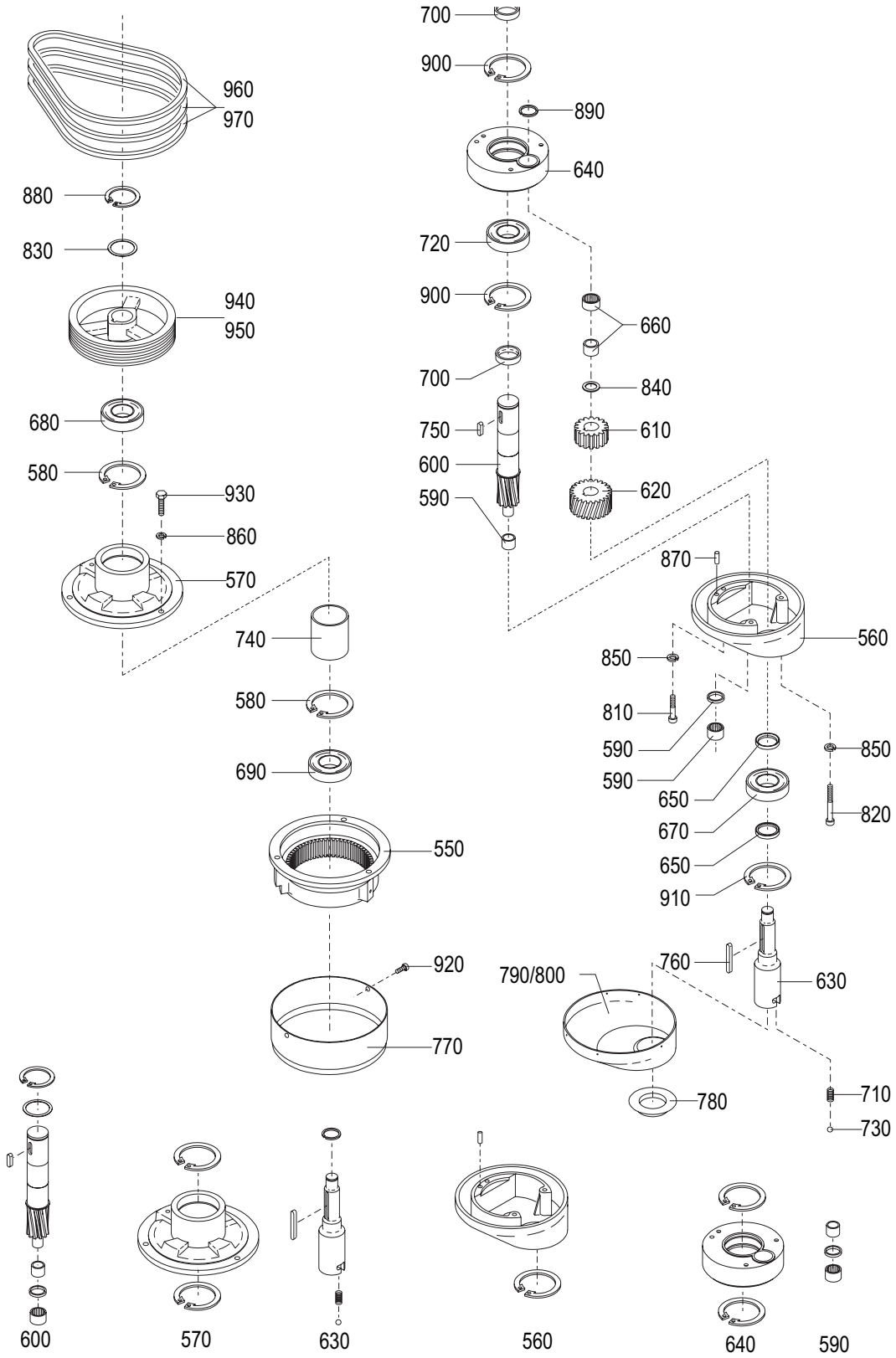
ID	Code	Model	Description
Module:Planetary head			
550	R30-1		Gear wheel rim
560	R30-2Z		Eccentric head
570	R40-3Z		Main bearing mounted
580	STA3526		Circlip 80L
590	R30-101Z		Needle bearing compl. BK2518 RS
600	R30-30Z		Main shaft assy
610	R30-31		Rim pinion
620	R30-32		Rim pinion, lower
630	R30-33Z		Bayonet shaft compl.
640	R30-36Z		Eccentric disc mounted
650	R30-37		Distance piece
660	R30-96		Needle bearing f/33Ø, HK 2820
670	R30-97		Ball bearing f/33n, 6207 2RS1C
680	R30-98		Ball bearing f/30
690	R30-99		Ball bearing f/30
700	R40-34		Distance piece
710	R15-109		Spring f/33
720	R30-100		Ball bearing f/30m, 6008 2RS1C
730	R30-106		Ball 5/6s.s.
740	R40-141		Distance piece
750	STA2030		Key B8x7x20
760	STA2038		Key A8x7x67
770	AR30-162H		Plastic cap, white
780	W30-209		Rubber ring f/33
790	W30-272		Headcap
800	W30-272.1		Headcap ss f. scraper
810	STA5640		Screw M8x50
820	STA5641		Screw M8x80

30=AR 30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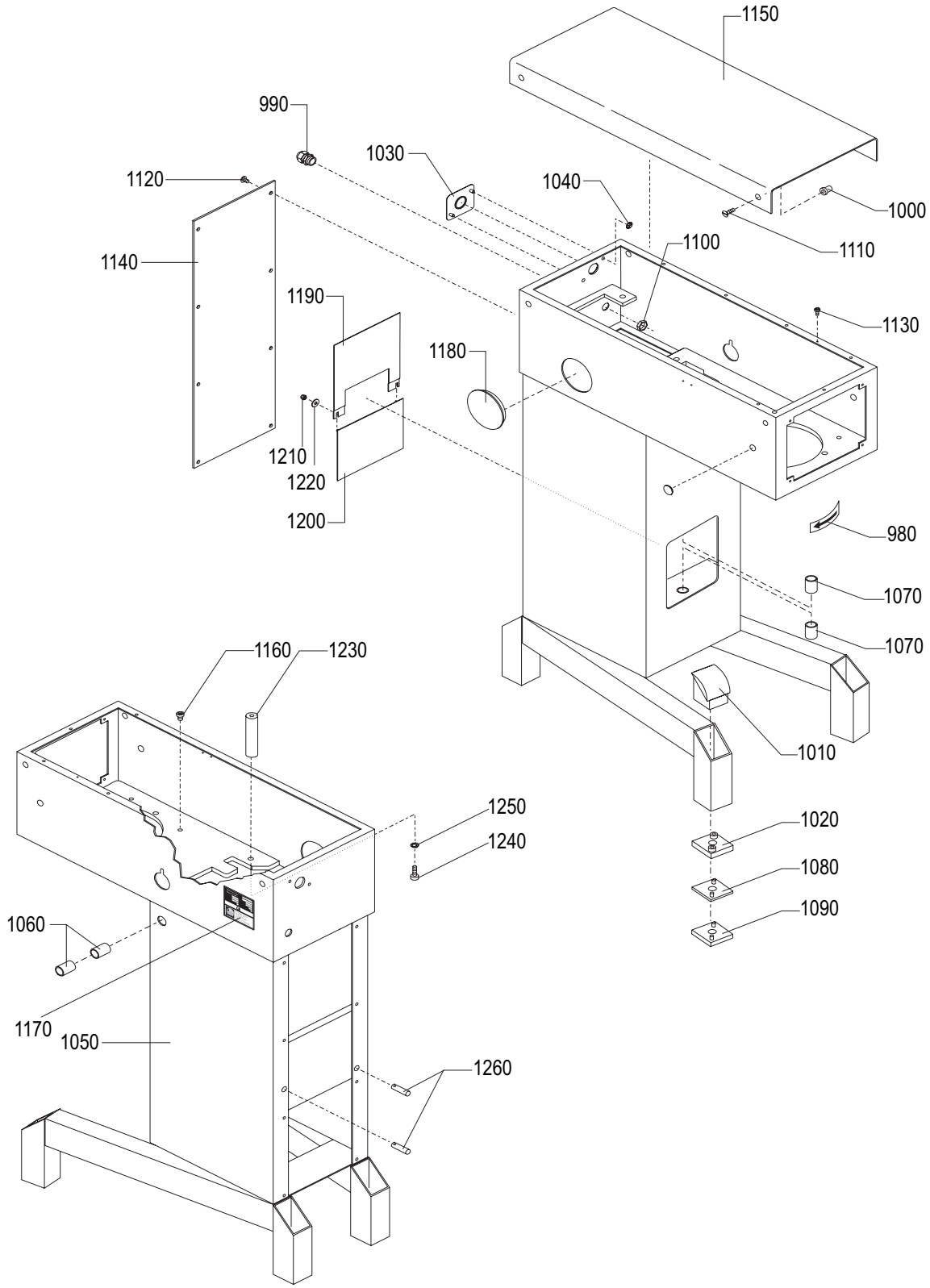
ID	Code	Model	Description
Module:Planetary head			
830	STA6043		Washer 40x50x0.5
840	STA6046		Washer
850	STA6055		Lockwasher 8mm
860	STA6057		Lockwasher 10mm
870	STA6460		Groove pin Ø8x24
880	STA3425		Circlip 40UC
890	STA3472		Circlip SW22
900	STA3520		Circlip 68L
910	STA3522		Circlip 72L
920	STA5044		Screw M4x16 counters. DIN965A
930	STA5346		Screw M10x40
940	R40-129		V-belt pulley 50Hz
950	R40-129A		V-belt pulley 60Hz
960	R40-90		Standard v-belt A27 50Hz
970	R40-90.1		Standard v-belt A29 60Hz

30=AR 30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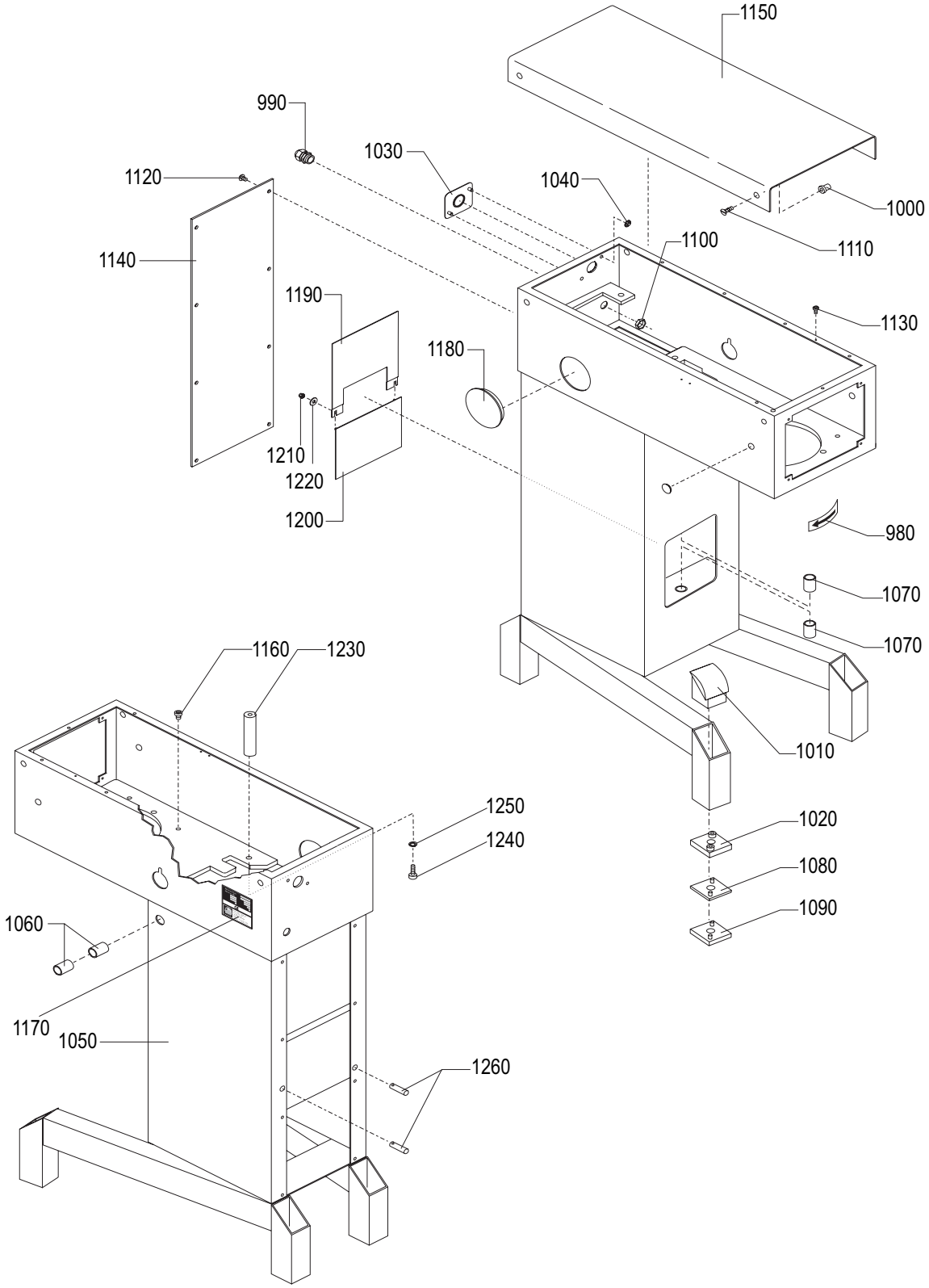
ID	Code	Model	Description
Module:Machine column			
980	R15-245		Arrow
990	STA3002		Cable inlet compl. PG13.5
1000	STA6580		Threaded bush
1010	AR30-212		Knee, plug button
1020	AR30-213		Foot
1030	AR31-163		Closing plate UL-hole
1040	STA3411		Clamping ring KS 6
1050	AR31-22MO		Machine column, white
1060	STA2515		Bearing bush MB2030DU
1070	STA2520		Bearing bush MB2525DU
1080	AR30-214.3		Intermediate piece 3mm
1090	AR30-214.6		Intermediate piece 6mm
1100	STA3014		Nut PG 13.5
1110	STA5017		Screw M6x20
1120	STA5080		Screw s.s. M6x10
1130	STA5232		Earth screw RX-TT M4x8 mm
1140	AR31-22.17R		Cover plate 30/40 L stainless
1150	AR31-21		Topcover set, stainless steel
1160	AR31-306		Stopper
1170	R15-244		Machine number sign
1180	STA6510		Plug button ø88.9
1190	AR31-270		Cover plate NSF, upper
1200	AR31-271		Cover plate NSF, lower
1210	STA5834		Lock nut M5
1220	STA6027		Washer 18x6.4x1.6mm
1230	AR31-148M4		Tie rod for motor bracket
1240	STA5625		Screw M8x25
1250	STA6056		Lockwasher 8mm

30=AR 30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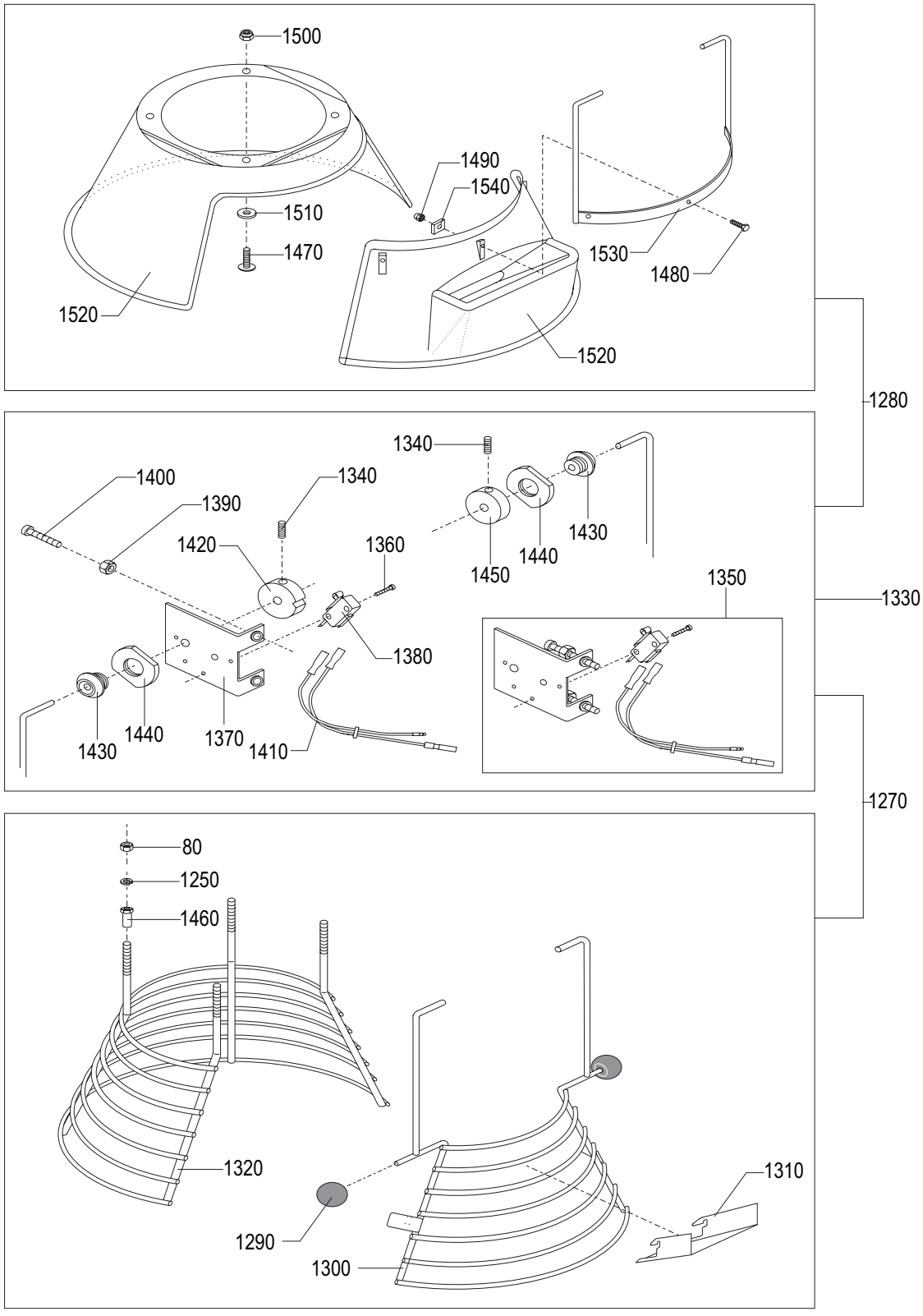
ID	Code	Model	Description
Module:Machine column			
1260	R30-70.1		Rollpin

30=AR 30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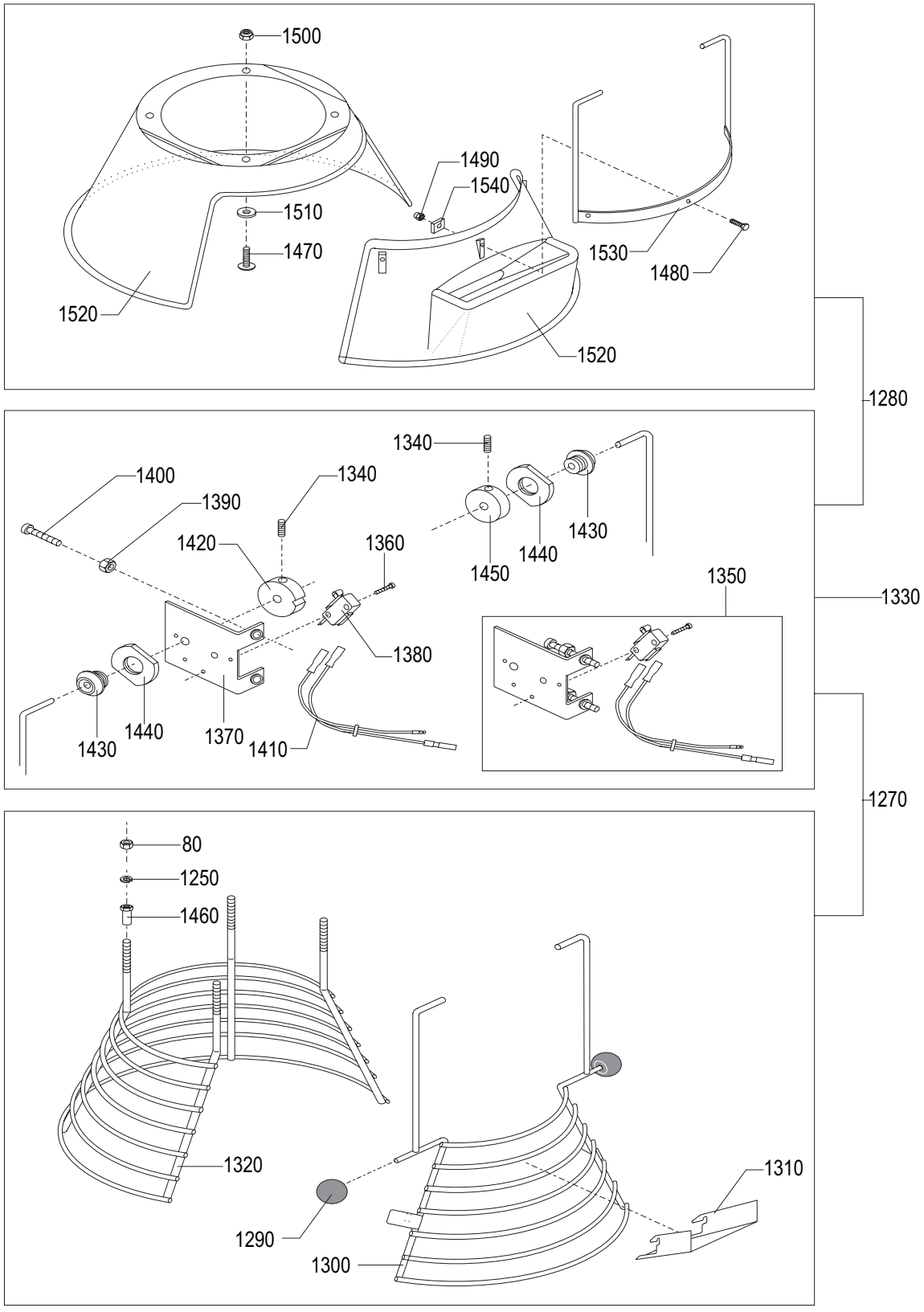
ID	Code	Model	Description
Module:Safety guard			
1270	00001-14030-001		Safety guard AR30 compl.grid
1280	00001-14030-002		Safety guard compl.plast AR30
1290	STA3307		Knob Ø 32, black
1250	STA6056		Lockwasher 8mm
1300	56G30-21		Grid front part AR30
1310	56G20-280		Detachable filling skid for safety guard
1320	56G30-22		Grid rear part AR30
1330	56P30-75		Fittings for safety guard
1340	STA5665		Screw M6x16
1350	56P30-15		Fittings for microswitch compl.
1360	STA5251		Plate screw 4x16 DIN7981
1370	56SN30-13		Fitting for microswitch
1380	56SN20-30		Microswitch
1390	STA5819		Nut M6
1400	STA5250		Screw M6x50
1410	AR30-193M		Cable for microswitch
1420	56SN30-22		Cam disc
1430	56SN30-21		Bearing for safety guard
1440	56SN30-24		Distance washer
1450	56SN30-23		Lock washer
1460	56G30-26		Nut M8 special
80	STA5810		Nut M8
1470	STA5093		Screw M8x30, stainless steel
1480	STA5321		Screw M5x16
1490	STA5838		Nut M5
1500	STA5842		Lock nut M8
1510	STA6003		Washer, safety guard
1520	56P30Z/56P30.1Z		AR30 safety guard/front+rear plast AR30

30=AR 30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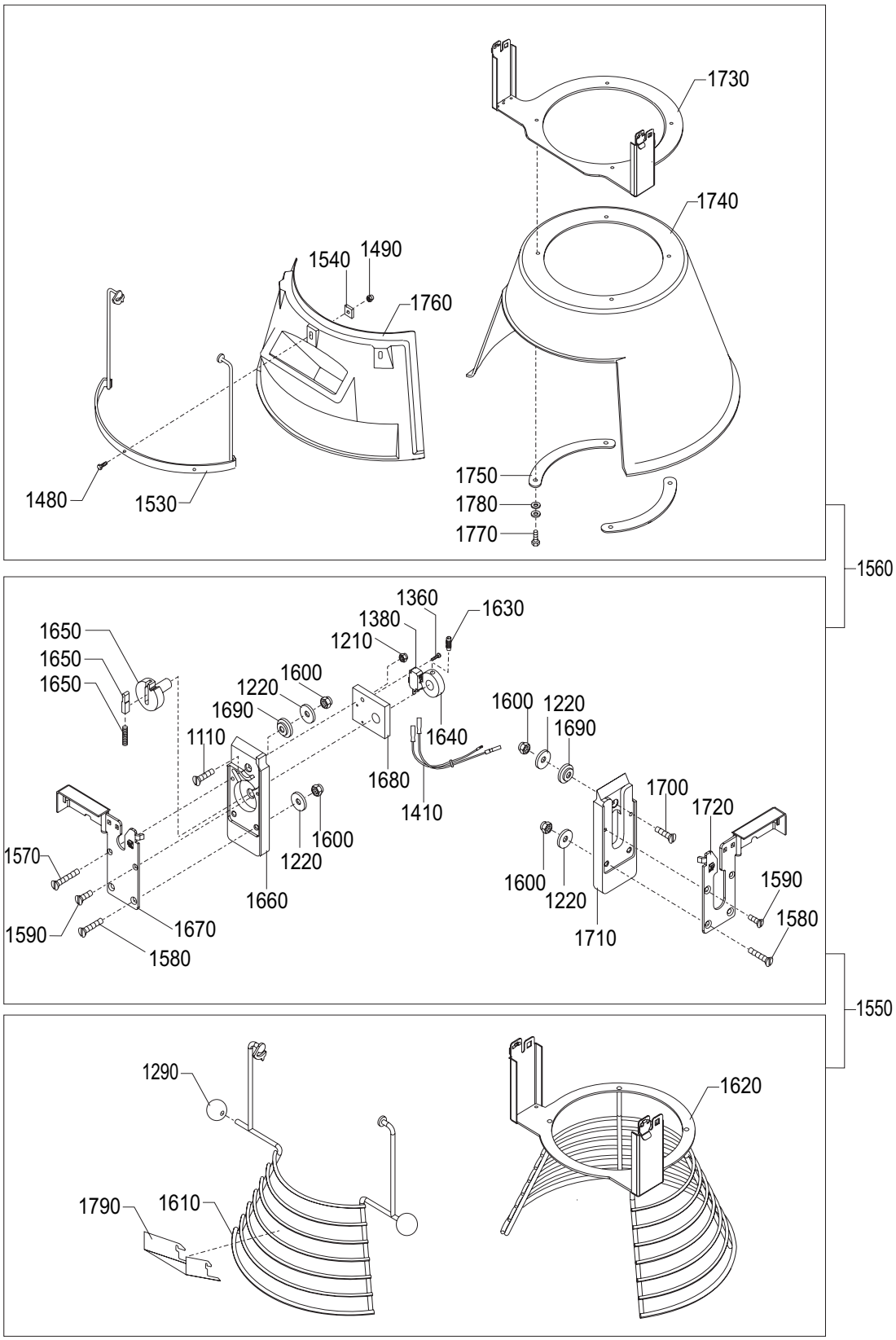
ID	Code	Model	Description
Module:Safety guard			
1530	56P30-34		Clamp for safety guard AR30-40
1540	56P30-35		Threaded plate

30=AR 30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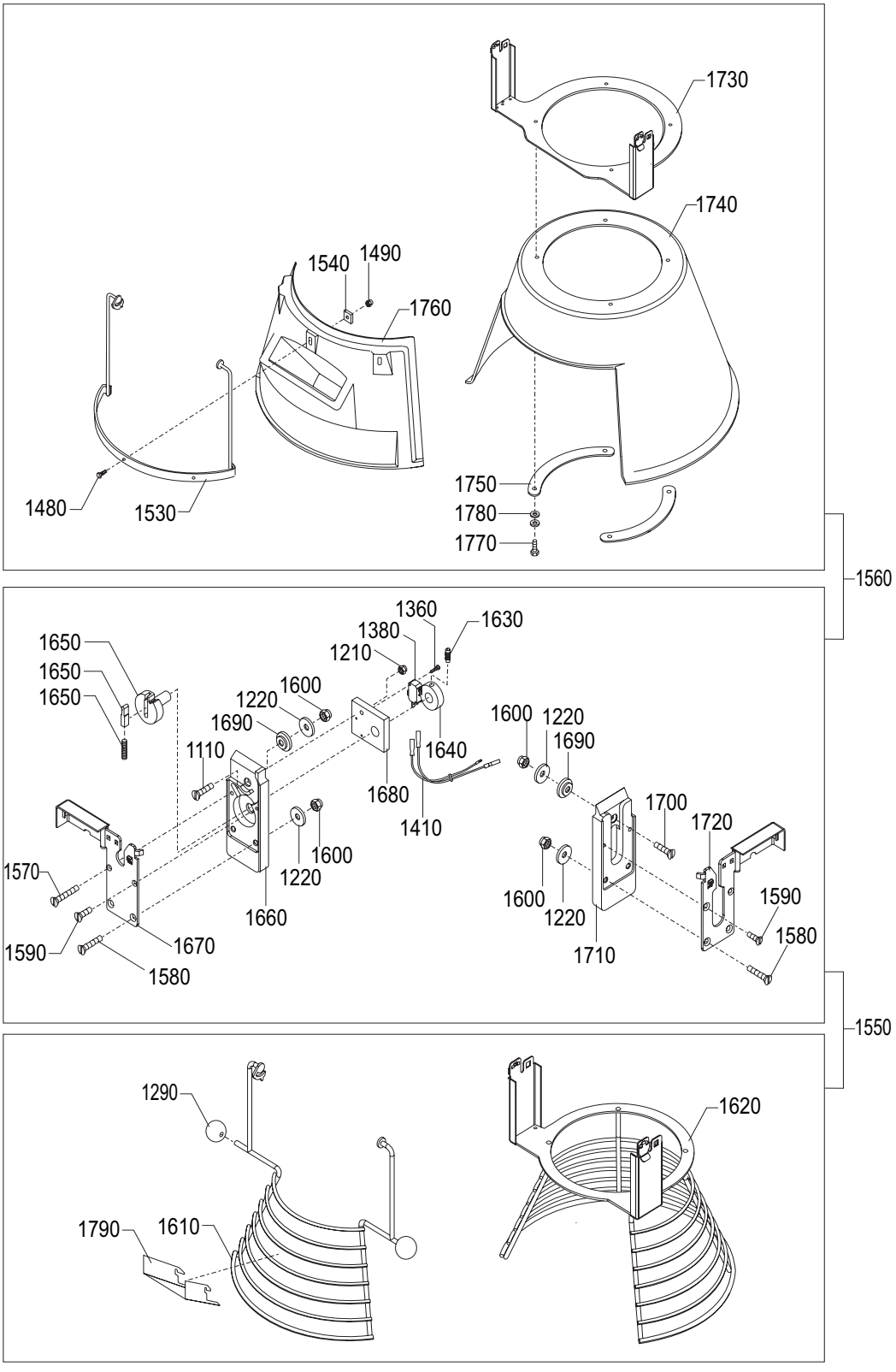
ID	Code	Model	Description
Module:Safety guard, removable			
1550	00001-14030-501		Removable safety guard complete, grid
1560	00001-14030-502		Removable safety guard complete, plast
1290	STA3307		Knob Ø 32, black
1570	STA5005		Slotted screw st.acidres. M5x35 DIN963
1580	STA5013		Screw M6x30 s.s.
1590	STA5026		Slotted screw st. acidres M5x16 DIN963
1600	STA5831		Lock nut M6
1210	STA5834		Lock nut M5
1220	STA6027		Washer 18x6.4x1.6mm
1610	56AG30-21		Front part removable grid
1620	56AG30-22		Grid rear part, removable 30
1110	STA5011		Screw M6x20
1630	STA5607		Screw M6x6 s.s.
1640	56RN20-22		Cam disc, drilled
1650	56AR30-123Z		Shaft for cam disc
1660	56AR30-100.1		Supporting piece for AR30/40L
1650	56AR30-123Z		Shaft for cam disc
1650	56AR30-123Z		Shaft for cam disc
1670	56RN20-100.1M		Parcial mounting, left susp.
1360	STA5251		Plate screw 4x16 DIN7981
1680	56RN20-110.1		Back plate, left,machined
1380	56SN20-30		Microswitch
1410	AR30-193M		Cable for microswitch
1690	56RN20-124		Disc for hole, column
1700	STA5011		Screw M6x20
1590	STA5026		Slotted screw st.acidres. M5x16 DIN963
1710	56AR30-101.1		Retaining piece,right 30/40L
1720	56RN20-101.1M		Partial mounting, right susp.

30=AR 30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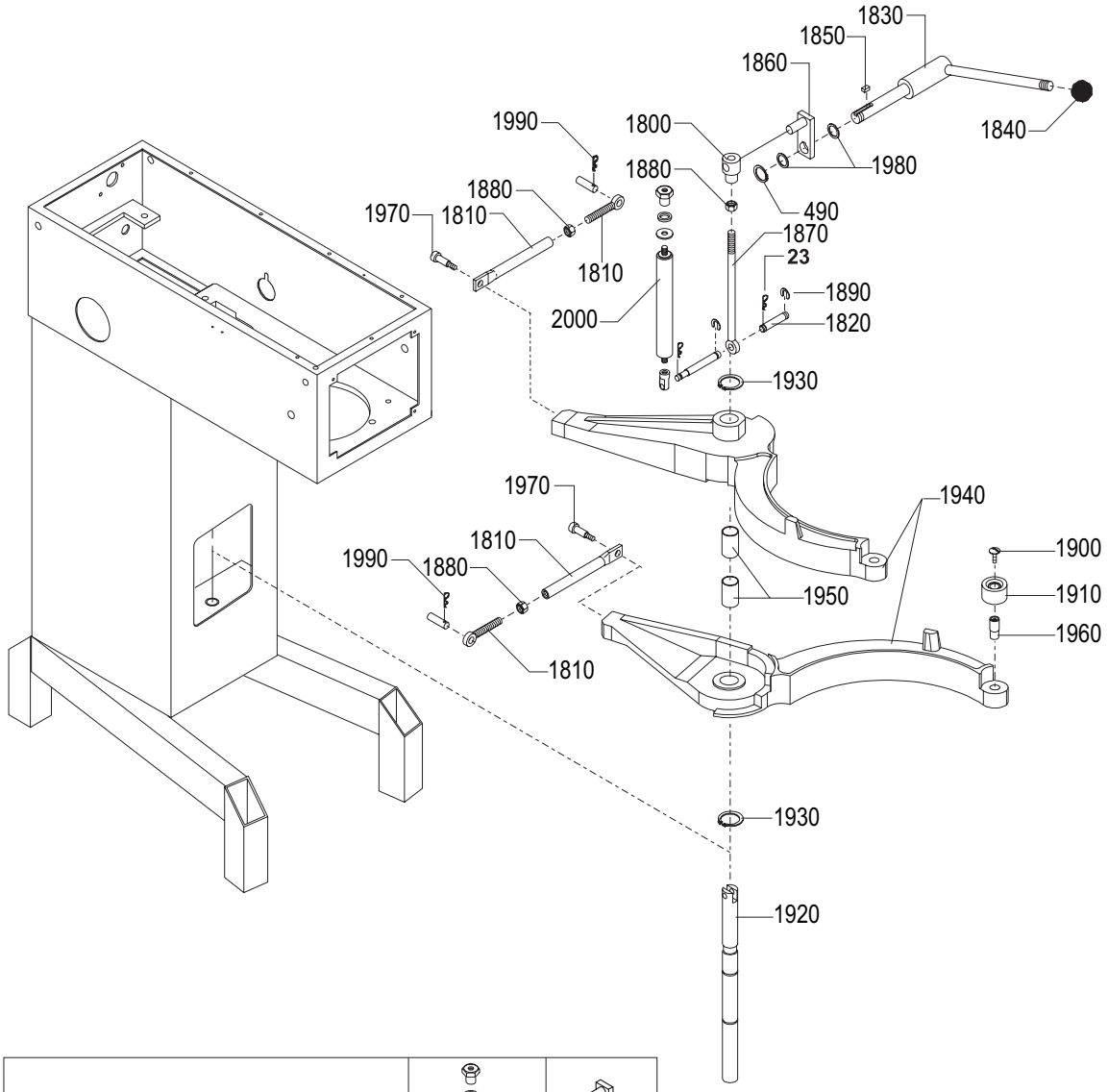
ID	Code	Model	Description
Module:Safety guard, removable			
1730	56AP30-109		Fittings for rear part comp.30
1740	56AP30-2		Rear part,rem. safety guard
1750	56AP30-206		Bottom fittings for rem.pl.30
1530	56AP30-34		Clamp for safety guard AR30-40 rem.
1760	56P30-13		Front part, plast AR30
1540	56P30-35		Threaded plate
1770	STA5314		Set screw, acid.res.M8x14H DIN933
1480	STA5321		Screw M5x16
1490	STA5838		Nut M5
1780	STA6152		Nord-lock disc,acid.res.M8
1790	56G20-280		Detachable filling skid f.safety guard,grid

30=AR 30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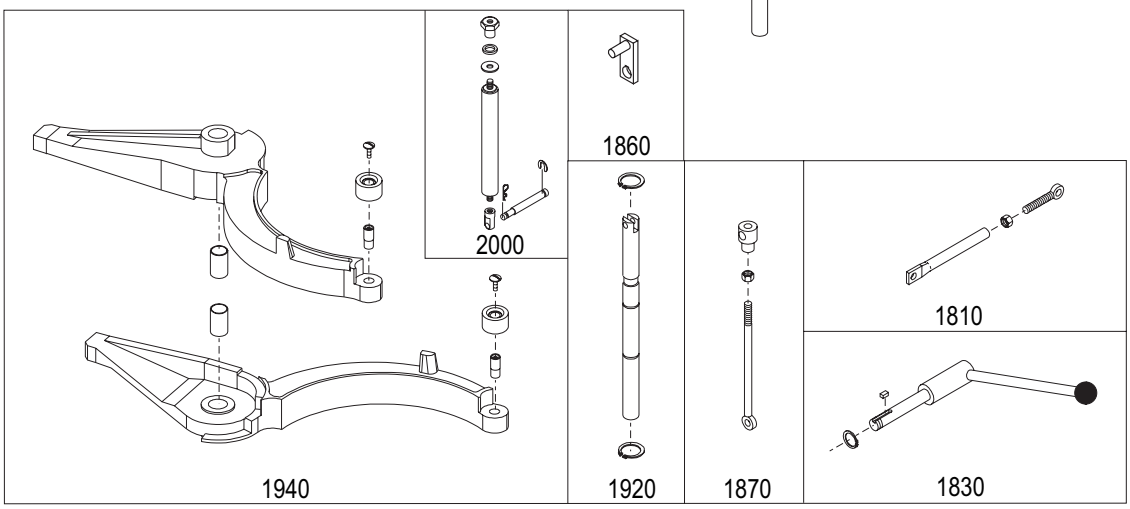
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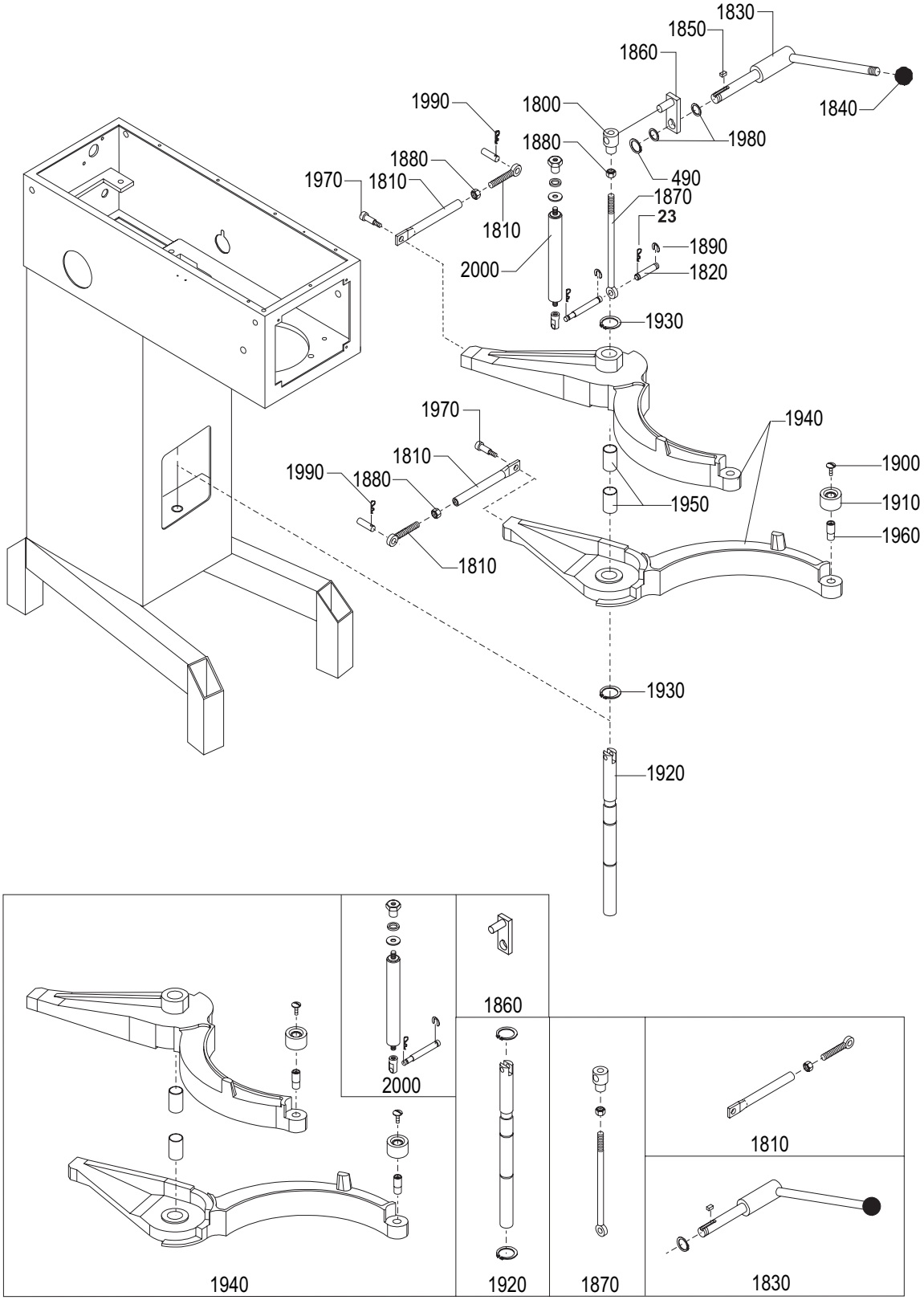
ID	Code	Model	Description
Module: Lifting system			
1800	R15-65		Lifting nut
1810	R30-69Z		Extension tube
1810	R30-69Z		Extension tube
1820	AR31-67		Lifting pin
1830	R27-62Z		Lifting lever assy
1840	STA3308		Knob ø40 red
1850	STA2020		Key B6x6x15
490	STA3407		Circlip 19U
1860	R27-63Z		Crank shaft compl.
1870	R27-83Z		Lifting bolt
1880	STA5827		Nut M12
1890	STA3580		Circlip ST 10
1900	STA5088		Screw M8x16 stainless steel
1910	AR31-128		Roll for bowl clamping
1920	AR31-68Z		Bowl arm guide rod compl.
1930	STA3467		Circlip AS25
1940	AR31-23/24Z		Bowl arm set compl.w/rollers
1950	STA2522		Bearing bush MB2550DU

30=AR 30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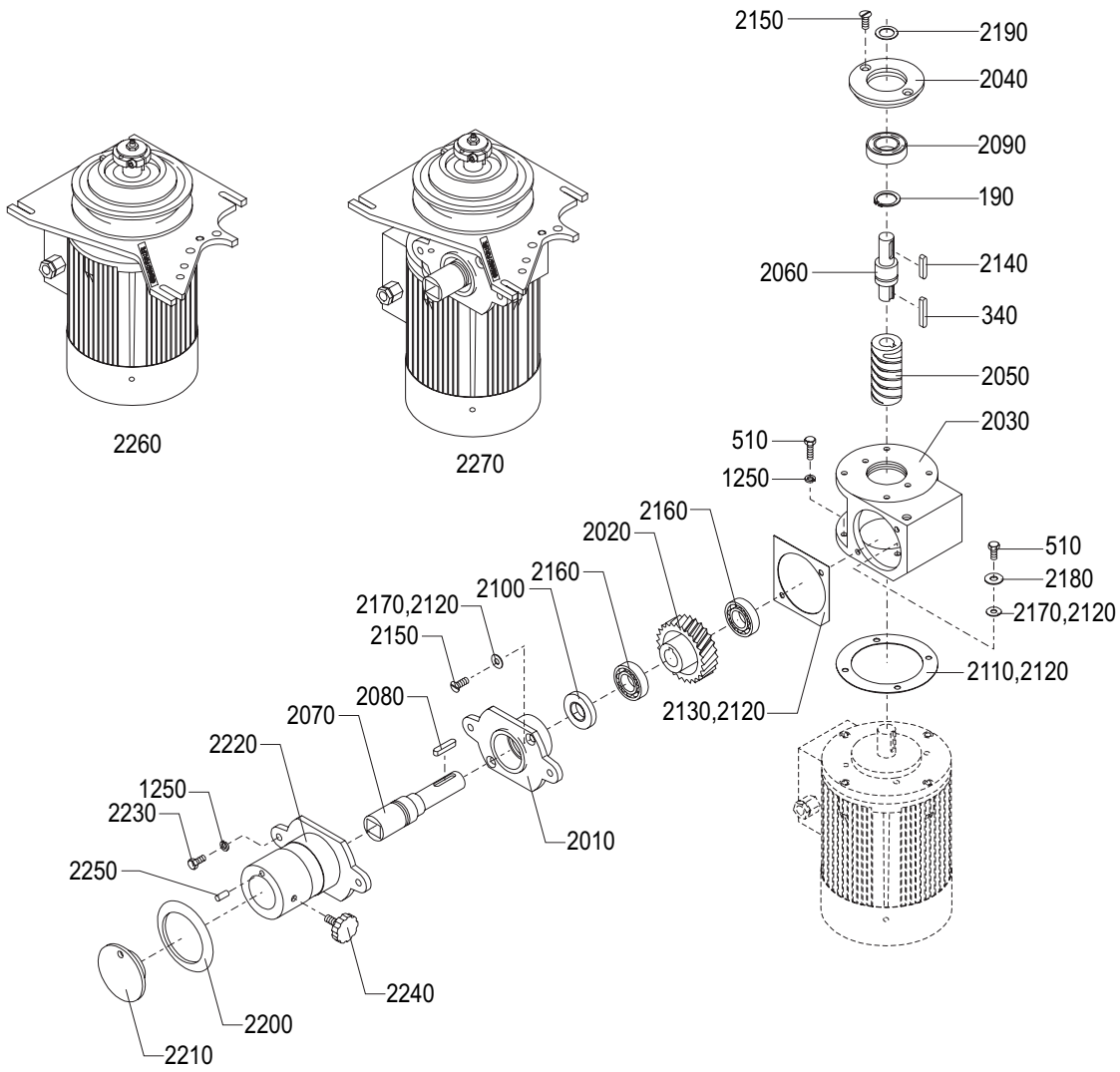
ID	Code	Model	Description
Module:Lifting system			
1960	AR31-127		Roller shaft
1970	STA5690		Fitted bolt M8x25
1880	STA5827		Nut M12
1980	STA6044		Washer 20x28xx0.5
1990	STA6205		Cotter pin
2000	W40-600M		Oil damper mounted

30=AR 30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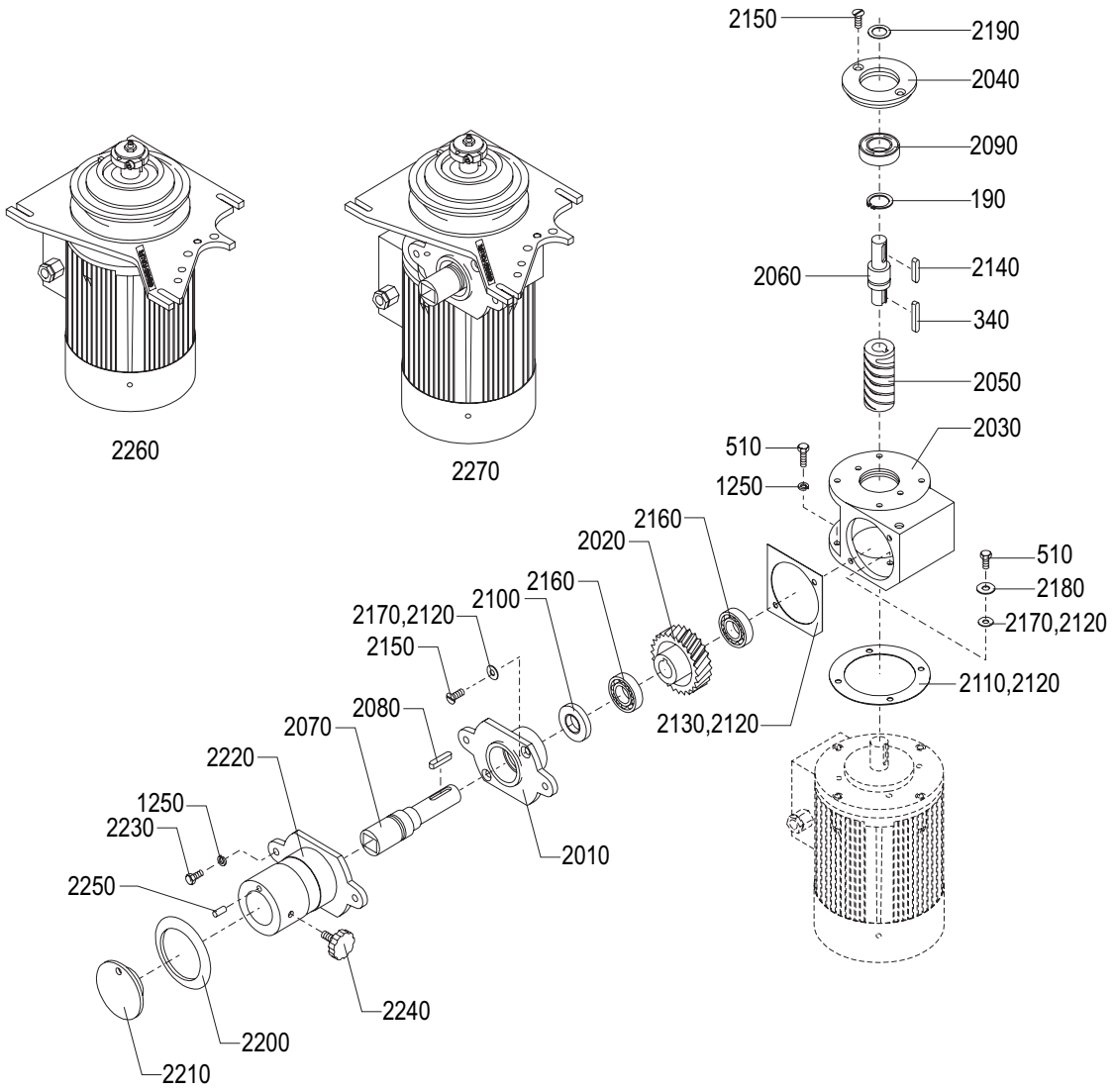
ID	Code	Model	Description
Module:Attachment drive			
2010	R15-5		Bearing hub
2020	R20-9		Worm wheel
2030	R15-10		Gear case
2040	R15-11		Gear case cover
2050	R20-49		Worm
2060	R20-52Z		Gear shaft assy
2070	R15-50Z		Attachment drive shaft assy
2080	STA2032		Key A8x7x42.5
2090	R20-104		Ball bearing f/52 6205 2RS1C3
2100	R20-107		Oil seal f/50 254710
2110	R20-300		Gasket for R15-10
2120	R20-300Z		Gasket for R15-10
2130	R20-301		Gasket for R15-10
2140	STA2007		Key A5x5x25
340	STA2011		Key A5x5x57
190	STA3410		Circlip 25U
2150	STA5018		Screw M8x20
2160	6005 2RS		Ball bearing
510	STA5433		Screw M8x25
2170	STA5908		Seal washer ø8
2180	STA6020		Washer 5/16"x3/4" elzinkt
2190	STA6054		Washer
1250	STA6056		Lockwasher 8mm
2200	R15-211		Rubber ring f/8
2210	R15-214		End cover
2220	R15-8MO		Attachm.engagement hub white
2230	STA5322		Screw M8x20
2240	STA5561		Finger screw

30=AR 30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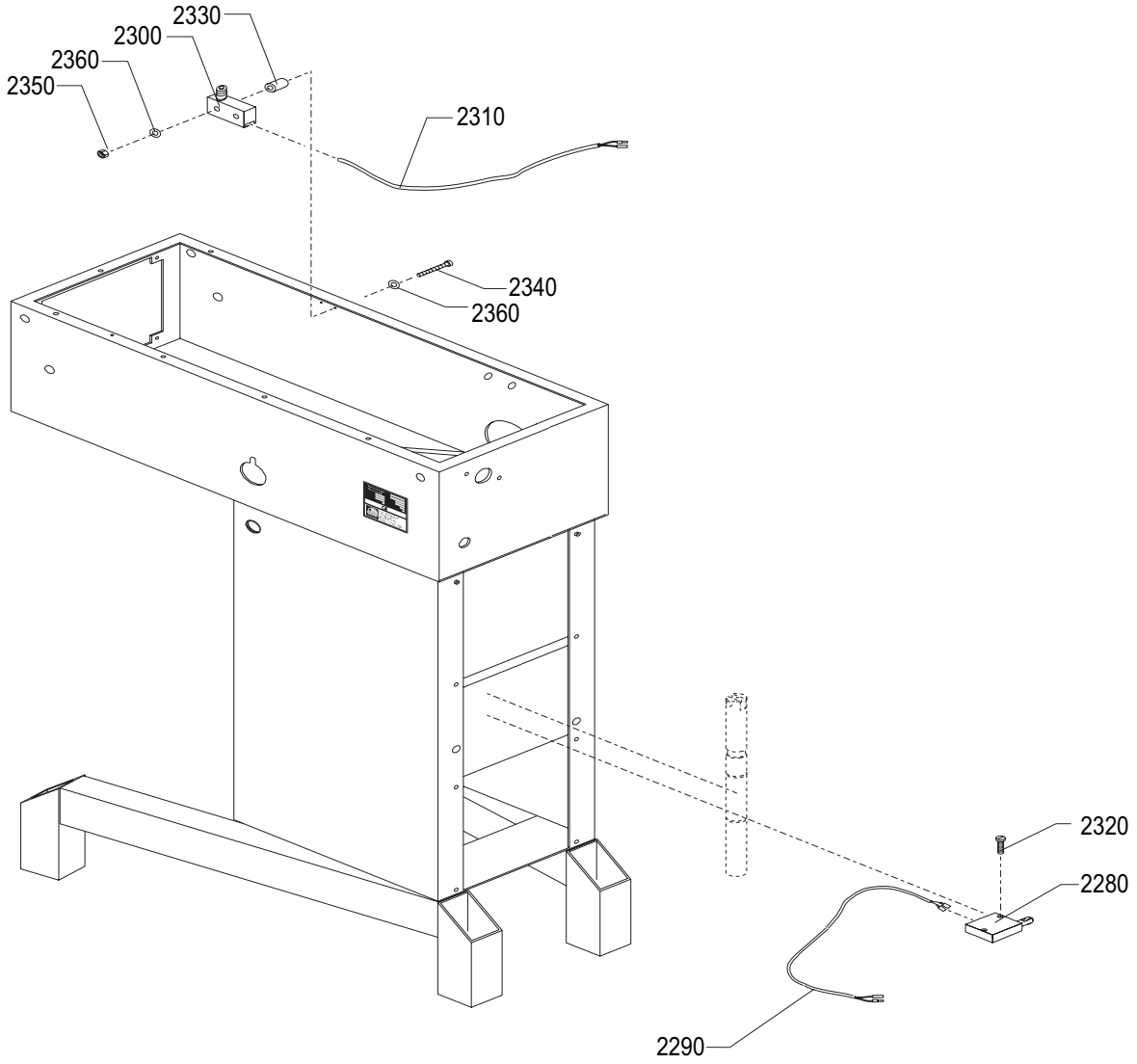
ID	Code	Model	Description
Module:Attachment drive			
1250	STA6056		Lockwasher 8mm
2250	STA6316		Roll pin ø8x20
2260			Motor complete without attach. drive
2270			Motor complete with attach. drive

30=AR 30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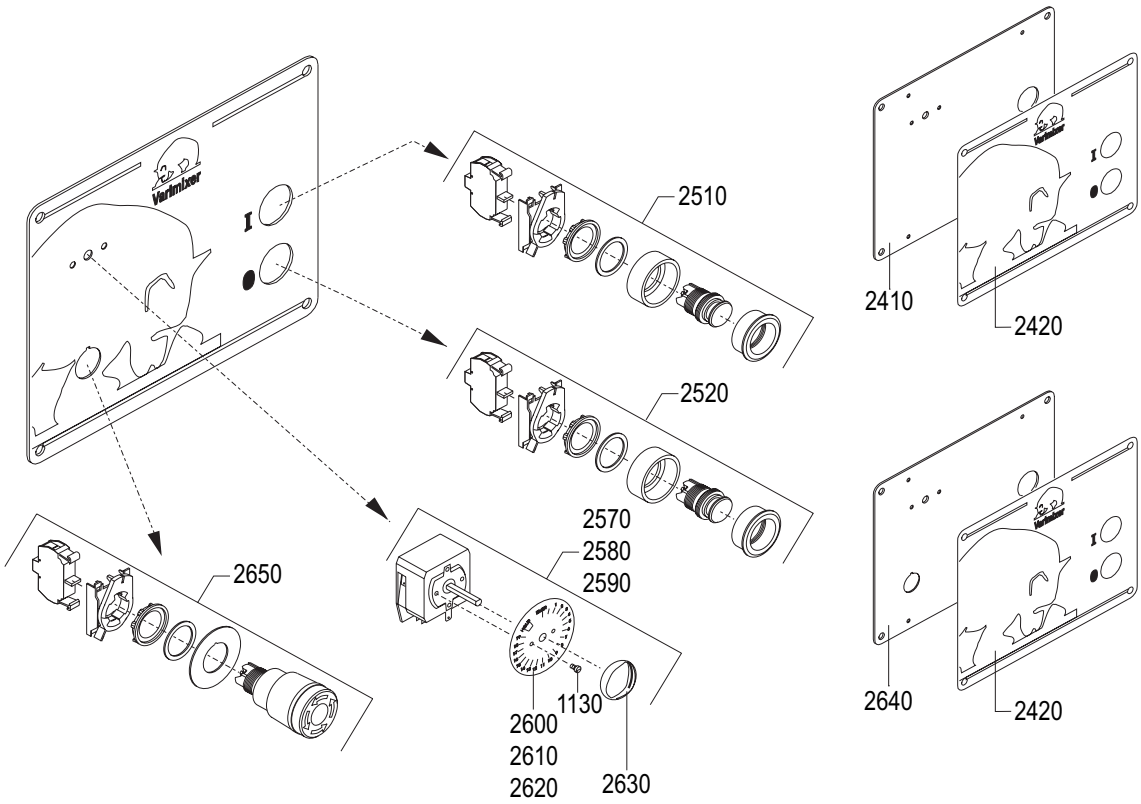
ID	Code	Model	Description
Module:Microswitches			
2280	AR140-173		Microswitch "CE" for bowllift
2290	AR31-194.11		"GS" microswitch cable mounted
2300	R27-172		Microswitch
2310	AR61-194.12		Cable for lid microswitch
2320	STA5662		Screw M3x20
2330	AR30-250		Distance piece
2340	STA5126		Screw M3x50
2350	STA5817		Nut M3
2360	STA6024		Washer 3x10

30=AR 30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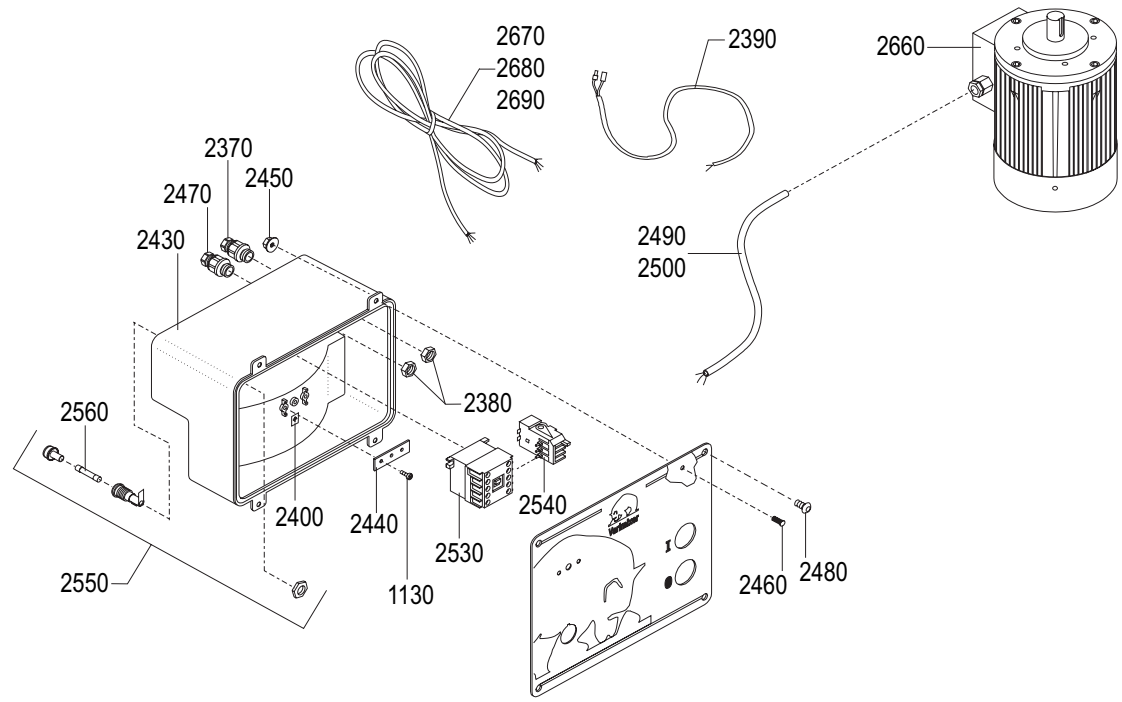
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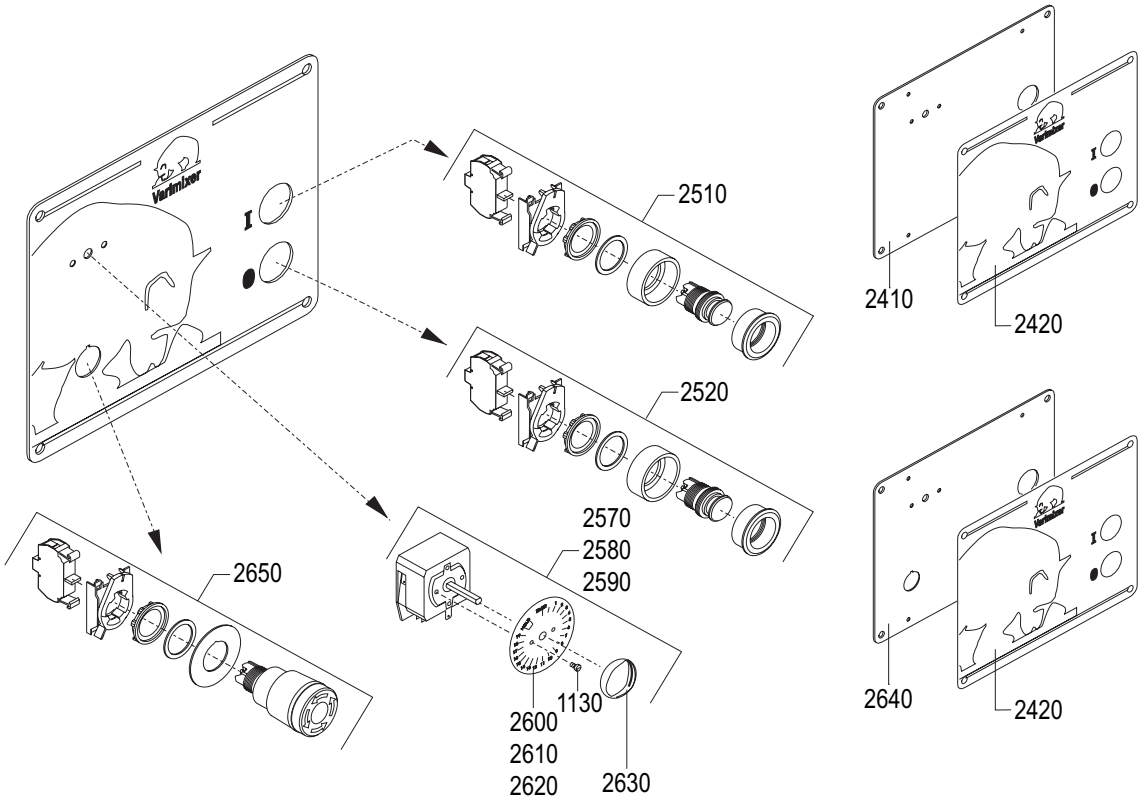
ID	Code	Model	Description
Module:Electric components			
2370	STA3000		Cable inlet PG11
2380	STA3010		Nut PG11
2390	AR31-194.8M		Main circuit cable AR31-AR101
2400	AR30-453		Earth mark, adhesive 9x13
2410	AR31-149		Front panel, punched
2420	AR31-149.5		Front foil, standard
2430	AR31-152Z		Cover box, elec
2440	AR31-457		Earth clamp
2450	STA5897		Flanged nut M5 DIN6923 FZB
2460	STA6483		Press screw CH-M5x15
2470	STA3017		Cable inlet,nylon PG11
2480	STA5097		Stainless mixer screw galv. black M6x10
1130	STA5232		Screw M4x8
2490	RN30-194.9M		Cable 4x1.5 white
2500	RN30-194.10M		Cable 3x1.5 white
2510	AR31-174.2		Start switch complete
2520	AR31-174.3		Stop switch complete
2530	R20-88.002,(.....)		Contactor CI4-5 220V 50/60
2540	R20-88.011,(.....)		Thermal release TI9 2.7-4
2550	R20E-416.1		Fuse holder compl.
2560	R20E-418.3		Fuse 1A, slow 6.3x32 UL CSA
2570	AR30-188.1Z		Timer Compl. 30min. Mechanic
2580	W30-188.16Z		Timer Compl. 220V 60Hz 15min
2590	W30-188.17Z		Timer compl. 220V 50Hz 18min
2600	AR31-187.15		Timer dial 15 min
2610	AR31-187.18		Timer dial 18 min
2620	AR31-187.30		Timer dial 30 min
1130	STA5232		Screw RX-TT M4x8 mm

30=AR 30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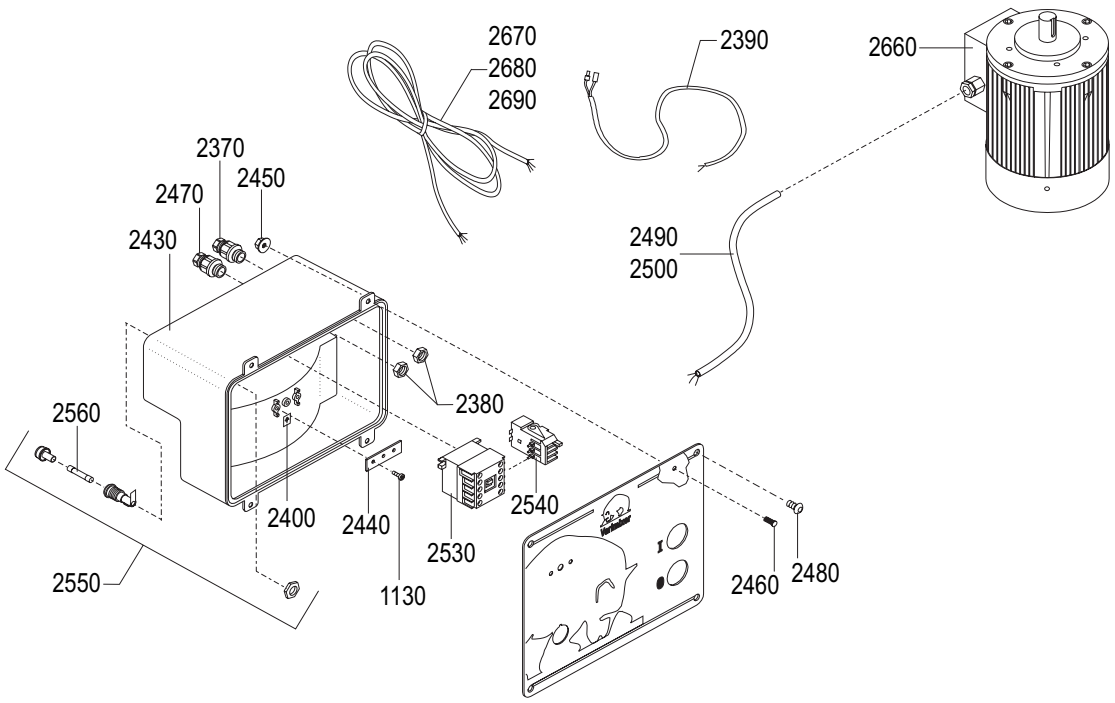
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1130
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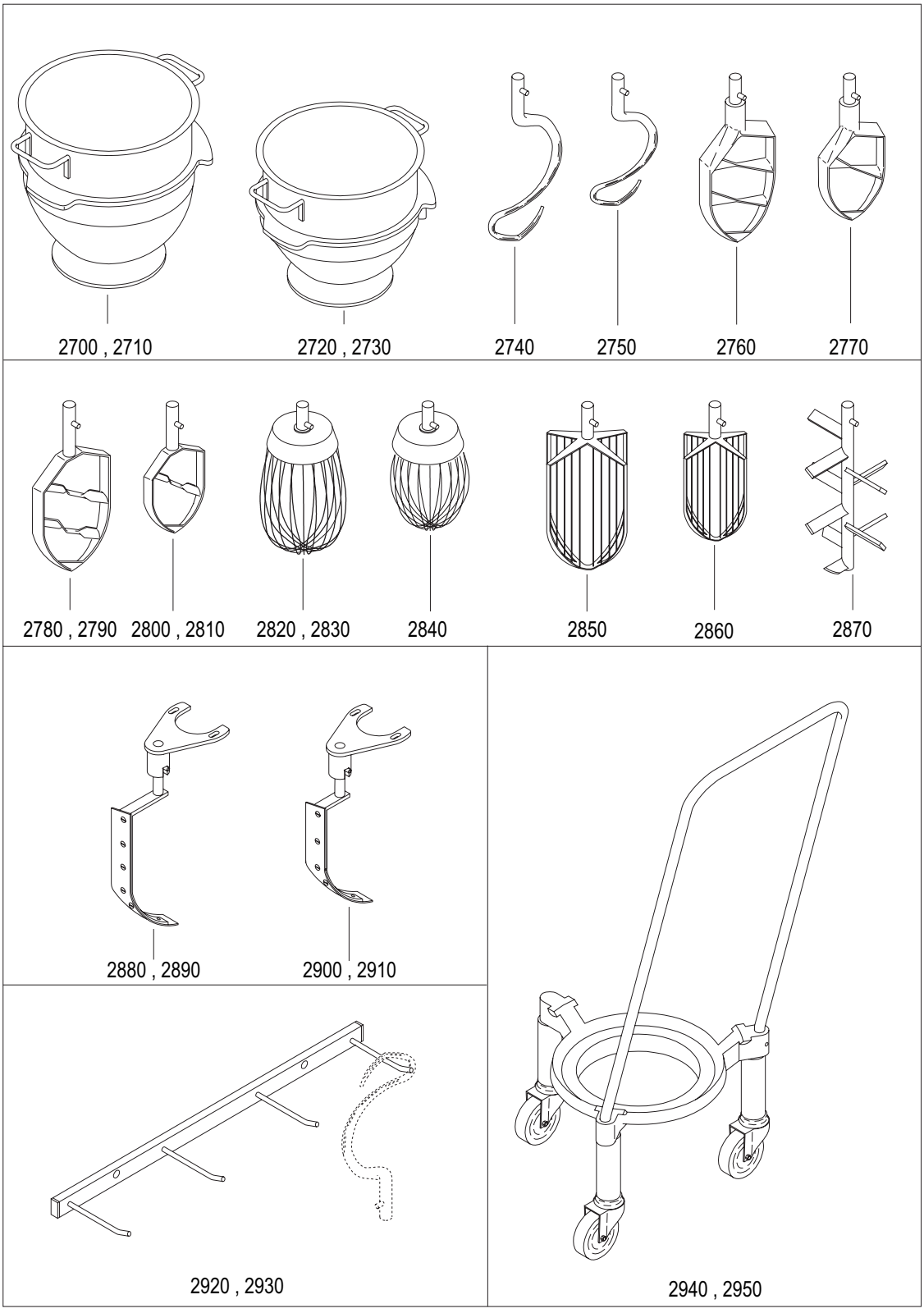
2480

ID	Code	Model	Description
Module:Electric components			
2630	W30-189		Knob for electric timer
2640	AR31-149.1		Front plate, emergency stop
2650	AR31-174.5		Emergency stop compl.
2660	R30-85.1;R40-85.1(85.30)		Motor
2670	RN30-194.1M		Cable 5x1.5 white
2680	RN30-194.2M		Cable 4x1.5 white
2690	RN30-194.3M		Cable 3x1.5 white

30=AR 30


2700 , 2710
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2750
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2780 , 2790
2800 , 2810
2820 , 2830
2840
2850
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2880 , 2890
2900 , 2910
2920 , 2930
2940 , 2950

ID	Code	Model	Description
Module:Bowls and mixing tools			
2700	RN30-75M		30L bowl stainless steel
2710	RN30-75.1M		30L bowl st.steel acidproof 316
2720	RN30-75AM		30/15L bowl stainless steel
2730	RN30-75A1M		30/15L bowl stainless steel acidproof
2740	RN30-78M		30L hook,stainless steel
2750	R27-78AM		30/15L hook,stainless steel with pin p
2760	RN30-27M		30L flat beater
2770	R27-27AM		30/15L flat beater
2780	RN30-27.2M		30L flat beater, st.steel
2790	RN30-27.1M		30L flat beater, acidproof st.steel
2800	R27-27A2M		30/15L flat beater,st.steel
2810	R27-27A3M		30/15L flat beater,st.steel, acidproof
2820	RN30-28M		30L whip
2830	RN30-28MT		30L whip with thin wires
2840	R27-28AM		30/15L whip
2850	14RN30		30L wing whip, stainless steel
2860	14R30A		30/15L wing whip, st. steel
2870	39RN30		30L powder mixer, st.steel
2880	42RN30		30L scraper with nylon and holder
2890	42RN30T		30L scraper with teflon and holder
2900	42RN30A		30/15L scraper with nylon and holder
2910	42RN30AT		30/15L scraper with teflon and holder
2920	48R20Z		Rack for mixing tools
2930	48R60Z		Rack for mixing tools
2940	22AR30		Bowl truck compl. for AR30+R30/15L
2950	22AR30A		AR30/15 bowl truck compl.

30=AR 30

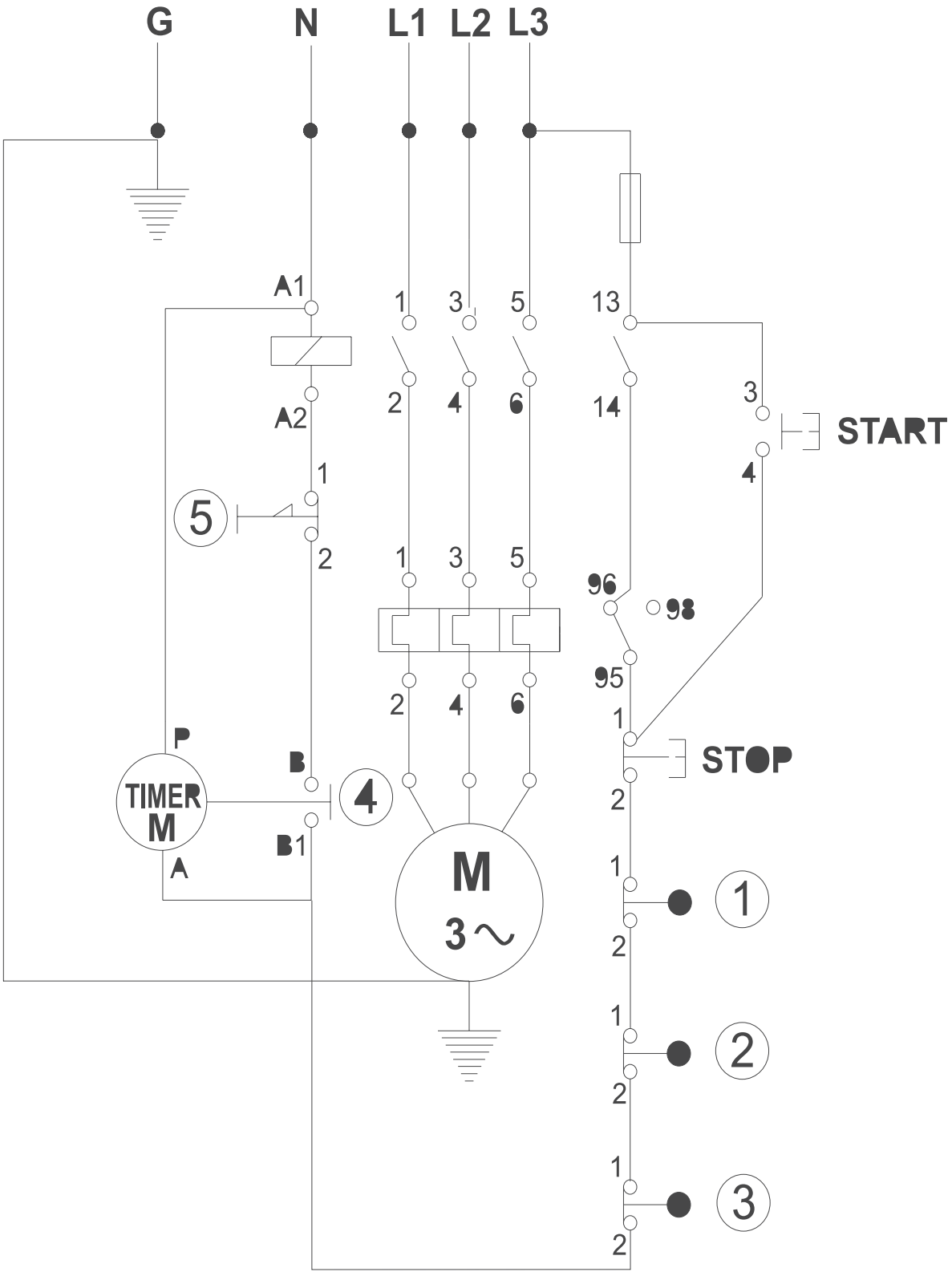
9. Technical specifications

Wiring diagram: electrical.connection: 3ph.+N+E. Ctrl.volt. to relay:1ph.+N

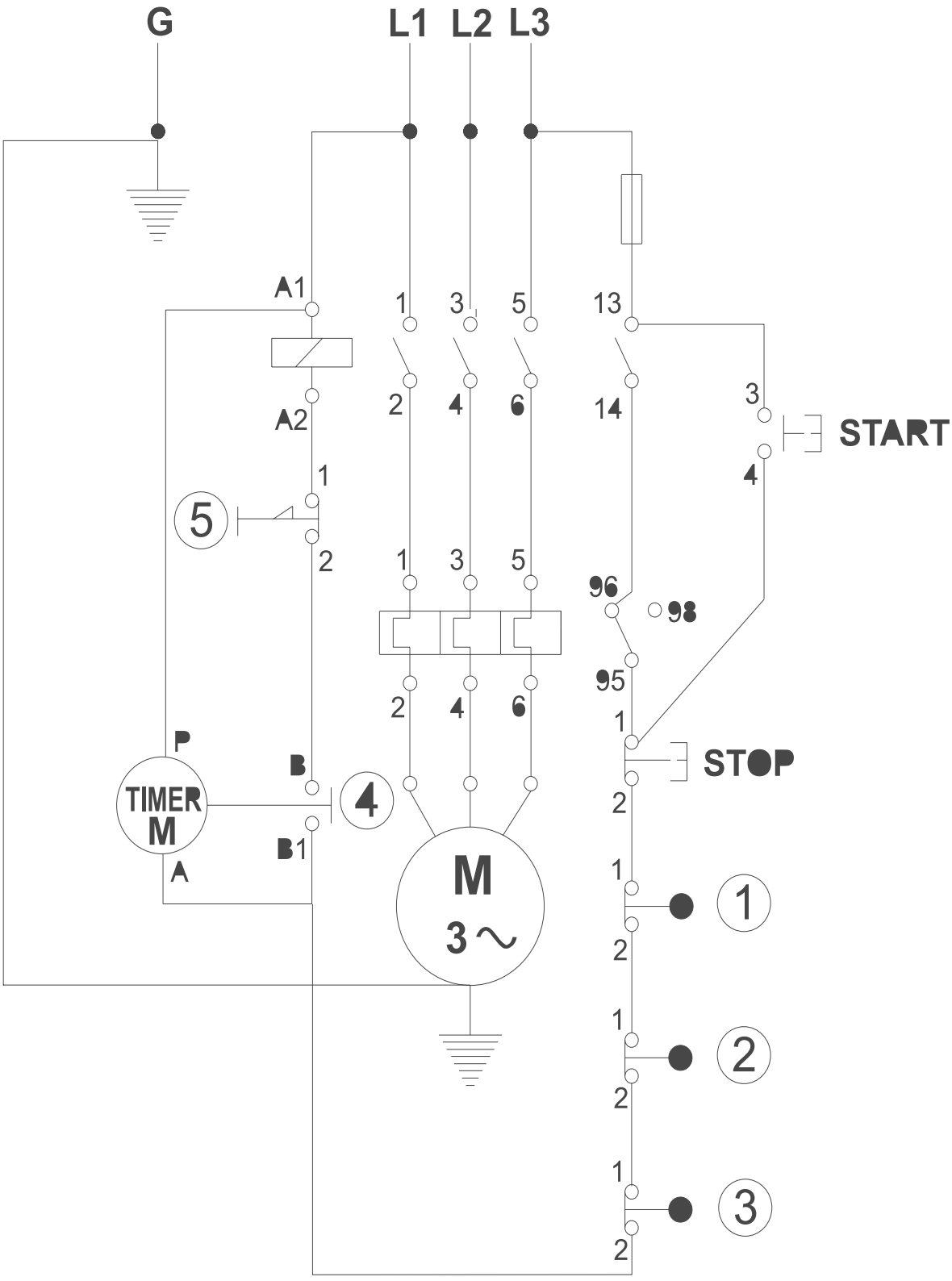
Wiring diagram: electrical connection:3ph.+E.Ctrl. volt.to relay: 2 phases

Wiring diagram: electrical connection:1ph.+N+E.or 2ph.+E.Ctrl.volt.to relay:1ph.+N or 2phases

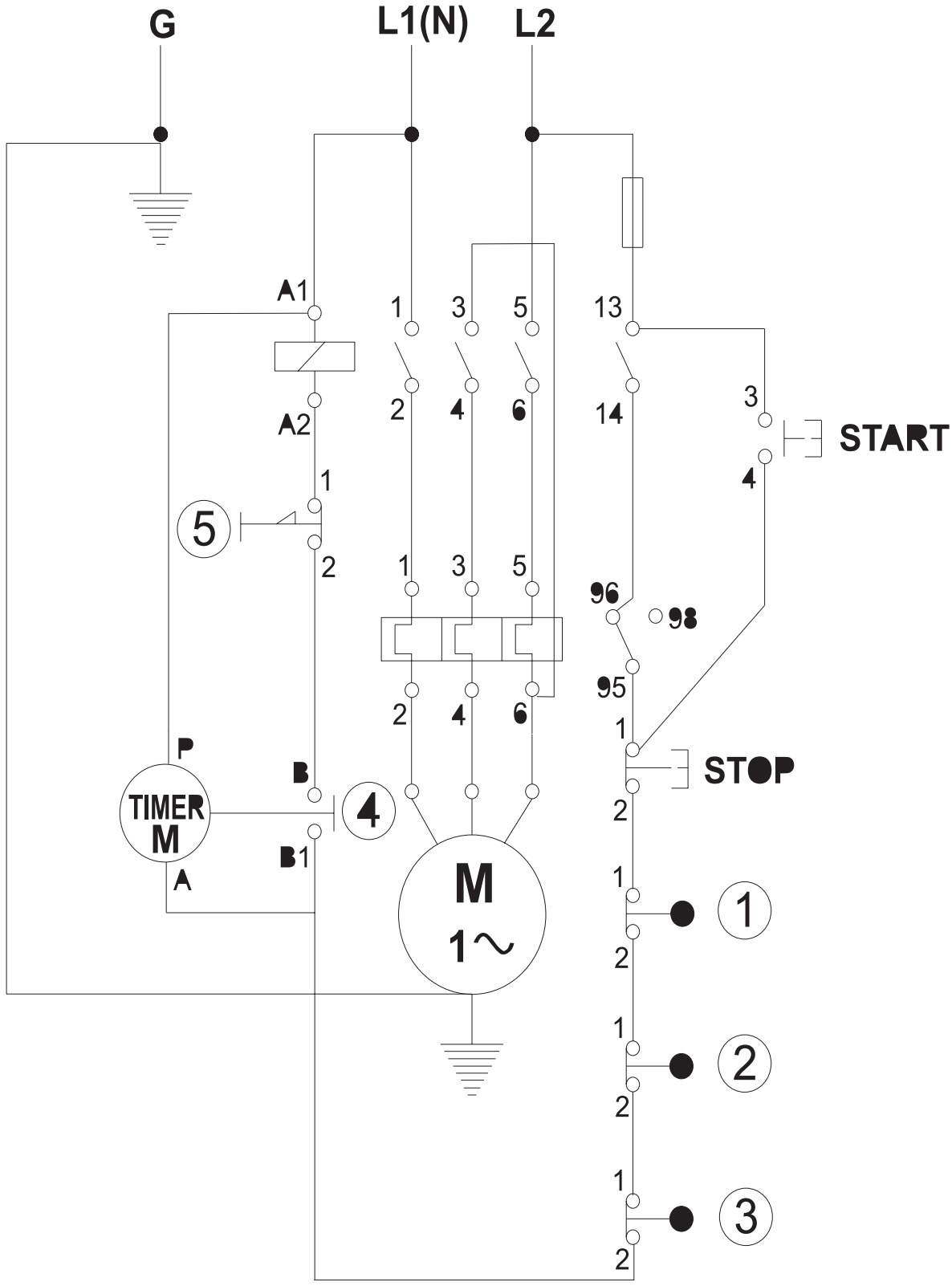
Installation drawing A31-22.24



Wiring diagram: electrical connection: 3ph.+N+E. Ctrl.volt. to relay:1ph.+N



Wiring diagram: electrical connection:3ph.+E.Ctrl. volt.to relay: 2 phases

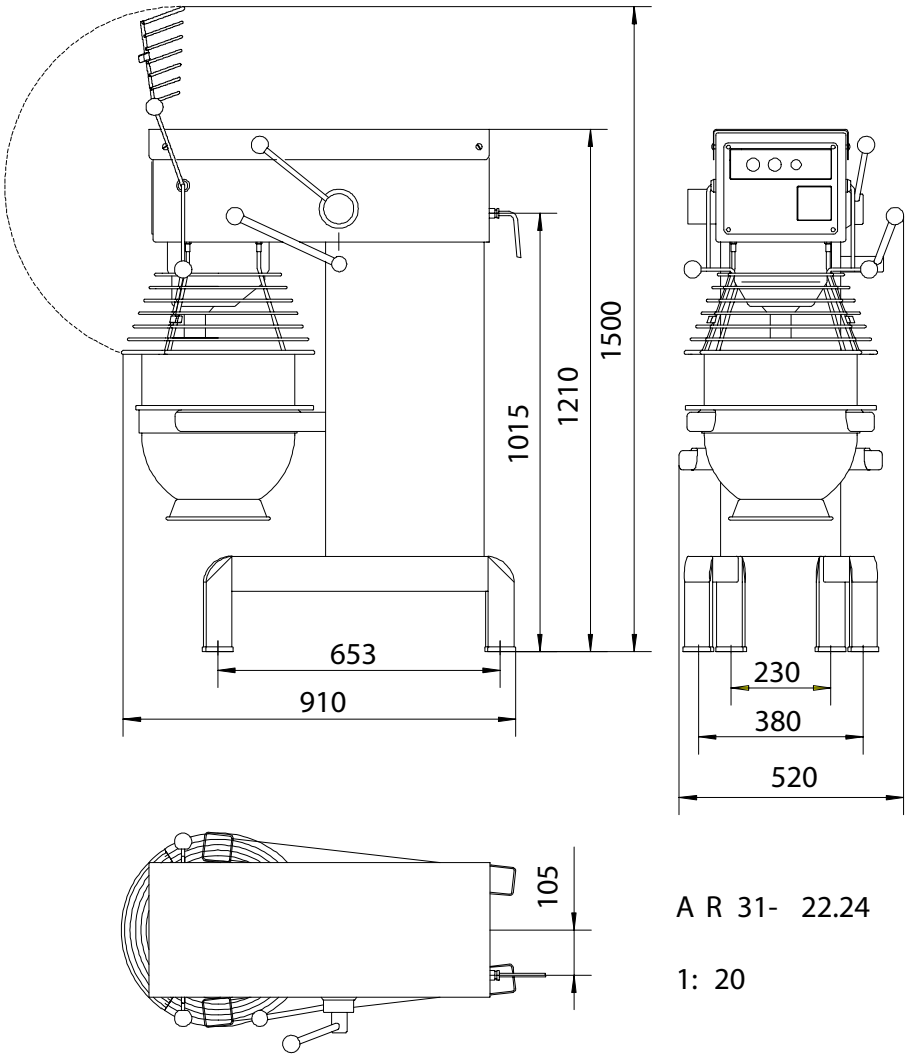


Wiring d-m:electrical connection:1ph.+N+E.or 2ph.+E.Ctrl.volt.to relay:1ph.+N or 2ph

1	Safety switch for bowl lift
2 #	Safety switch for safety guard
3*	Safety switch for lid
4*	Timer
5*	Emergency stop

* will only be mounted on request
# optional outside the EU

AR30



A R 31- 22.24

1: 20

Installation drawing A31-22.24

Item	Model	Specification
Capacity		30L
Motor		I kw

30=AR 30

Conformity Declaration

A/S Wodschow & Co.
Industrisvinget 6
DK-2605 Brøndby
Denmark

hereby declares that this mixer

AR 30
MK-1

which is covered by this declaration is in accordance with standards or other normative documents as stipulated in the directives:

89/392/EEC, changed by 91/368/EEC, legislation concerning machines and 73/23/EEC, legislation concerning electrical supplies determined within certain voltage limits with special reference to appendix 1 to the directives regarding essential security and health demands in connection with the construction and production of mixers and security components, and 89/336/EEC, Legislation of electromagnetic compatibility, changed at 31/263/EEC, 92/31/EEC and 93/68/EEC

As well as the approved and harmonized standards::

EN 292-1:1992, EN 292-2: 1992, EN60204-1:1992.

EMC-test	Emission:	EN 50081-1
	Immunity:	EN 50082-2

Brøndby,

01-08-2002		Managing Director
date	signature	occupation